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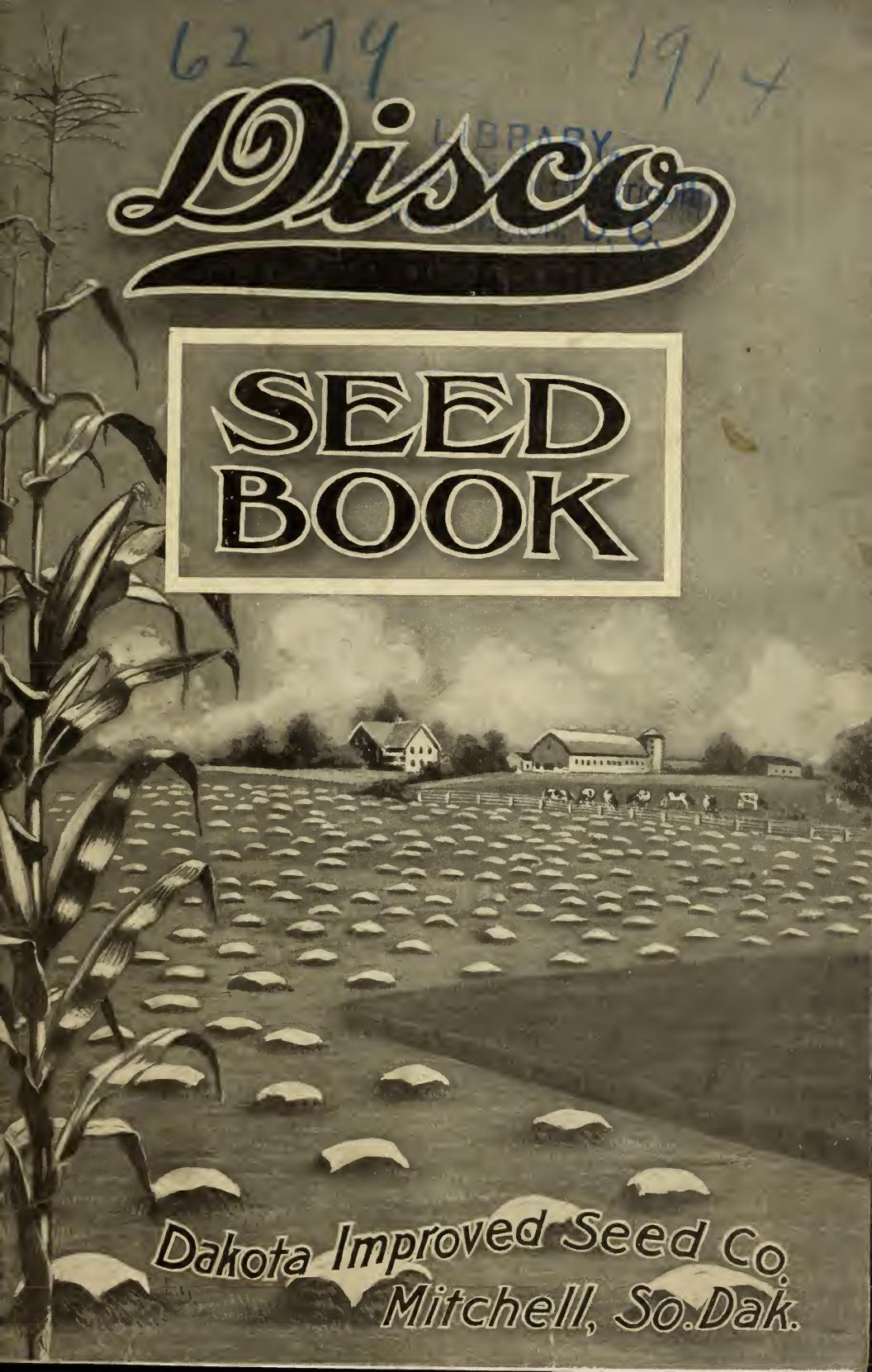
1914

Disco

LIBRARY

1914

SEED BOOK



Dakota Improved Seed Co.
Mitchell, So. Dak.

a Big Garden For One Dollar

OUR GREAT PROOF OFFER

30 Choice Varieties of DISCO Guaranteed Seeds—\$2.00 Worth for Only \$1.00

Wheeler's Model Garden Collection

Use Order Blank on Page 7 When Ordering

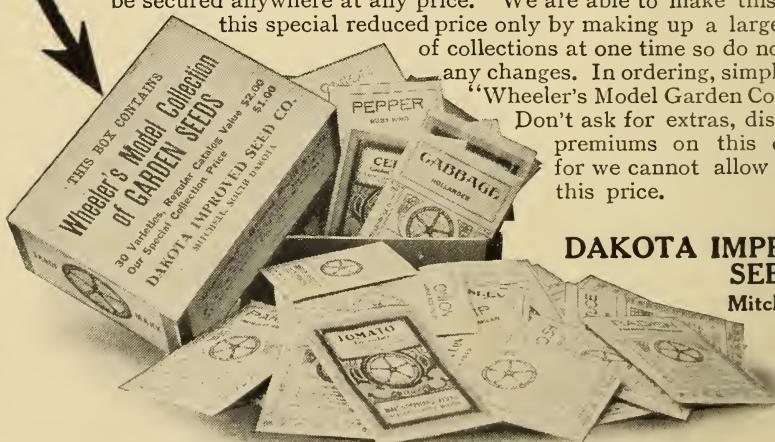
½ pint Beans, one of the best wax-podded bush varieties	\$.10
1 pkt. Beet, Crimson Globe or Crosby's Egyptian	.05
1 pkt. Cabbage Eureka, Early Jersey Wakefield or Charleston Wakefield	.05
1 pkt. Cabbage, Danish ball head or Hollander	.05
1 pkt. Carrot, Oxheart or Chantenay	.05
1 pkt. Celery, Golden Self-Blanching or White Plume	.05
1 pkt. Cucumber, Improved Early White Spine	.05
1 pkt. Lettuce, California Cream Butter	.05
1 pkt. Lettuce, Prizehead or Morse	.05
1 pkt. Muskmelon, Rocky Ford or Burrell's Gem	.05
1 pkt. Watermelon, Fordhook Early or Kleckley's Sweet	.05
1 pkt. Onion, Large Red Globe or Large Red Wethersfield	.05
1 pkt. Onion, Prizetaker or Yellow Globe Danvers	.05
½ pint Sweet Corn, Golden Bantam	.10
1 pkt. Parsley, Extra Moss Curled	.05
1 pkt. Parsnip, Hollow Crown or Improved Guernsey	.05
½ pint Peas, one of the best early varieties	.05
1 pkt. Pepper, Ruby King or Bull Nose	.05
1 pkt. Pumpkin, Small Sugar or Pie	.05
1 pkt. Radish, Rosy Gem or French Breakfast	.05
1 pkt. Radish, White Icicle	.05
1 pkt. Rutabaga, Purple Top Yellow	.05
1 pkt. Squash, Improved Hubbard or Golden Hubbard	.05
1 pkt. Tomato, Thorneber or Early June	.15
1 pkt. Tomato, Yakima or Dakota Farmer	.10
1 pkt. Turnip, Purple Top Strap Leaf	.05
1 pkt. Four O'clock, Mixed Colors	.05
1 pkt. Nasturtium, Finest Dwarf Mixed	.05
1 pkt. Pansy, Disco Mixture	.10
1 pkt. Portulaca, Mixed Colors	.05
½ oz. Sweet Peas, Disco Special Mixture	.10
	\$2.00

Sent Prepaid to Any Address in the U. S.

This collection is sufficient to plant one-tenth of an acre. It will furnish vegetables from January to December. The kinds included are the ones needed in every garden. They have been selected with the greatest care and every packet is marked to show germination test. None better can be secured anywhere at any price. We are able to make this offer at this special reduced price only by making up a large number of collections at one time so do not request any changes. In ordering, simply specify

"Wheeler's Model Garden Collection."

Don't ask for extras, discounts or premiums on this collection for we cannot allow them at this price.



**DAKOTA IMPROVED
SEED CO.
Mitchell, S. D.**

Dakota Improved Seed Co.

Mitchell, South Dakota



Ever since the Dakota Improved Seed Company was organized in 1906 the annual catalog published by the company under the name of Wheeler's Seed Book, or as it is now known, the DISCO SEED BOOK, has been a family reference work in the farm homes of the Northwest. It has contained information of value on all farm and garden crops. Particular attention, however, has been given to alfalfa and corn. There has been so much demand for information on these two crops that we have adopted the plan of giving up one whole section of sixteen pages of the DISCO SEED BOOK to each of these two important crops. These two sections of the DISCO SEED BOOK are also being published under separate covers as the DISCO ALFALFA BOOK and the DISCO CORN BOOK. The catalog and price list of farm seeds, including descriptions and prices of all garden seeds and miscellaneous articles, is published as the DISCO ANNOUNCEMENT.

The problem of any organization is to render the greatest possible service to its patrons. It is the aim of this institution to make the DISCO SERVICE more efficient and of more value to its patrons each year. In the publication of these books and in giving special attention to hardy alfalfas and early varieties of corn for the North, we believe we are in line with progress in this direction.

The DISCO ORGANIZATION is at your service and we hope that every farmer and gardener in the Northwest will be benefited through its efforts.

Any of the four DISCO PUBLICATIONS is yours for the asking. The DISCO SEED BOOK, however, includes the other three, and if you are interested in farm and garden crops you should have this book on your book shelf at all times for reference.

Disco
Service

Disco Organization
Disco Information Bureau
Disco Alfalfa Nursery
Disco Registration System

Disco
Publications

Disco Seed Book
Disco Announcement
Disco Corn Book
Disco Alfalfa Book

DAKOTA
IMPROVED
SEED
CO.
MITCHELL
SO. DAK.



J.T. Morrow, Vice President
Vice President Commercial and
Savings Bank of Mitchell.
Treasurer Board of Trustees
Dakota Wesleyan University.



W.A. Wheeler, Secretary and Manager.
1900-1903 Instructor in Botany, School and
College of Agriculture, University of Minn.
1903-1907 Botanist of Dakota Agricultural
College and Experiment Station.



W.S. Hill, President and Treasurer
Pres. S.D. State Board of Agriculture
Pres. Security Nat. Bank of Alexandria
Chairman Better Farming Committee of the
S.D. State Bankers Association
Prop. Lincoln Ranch in Brule Co.
and of Riverview Herd of Red Polled Cattle.



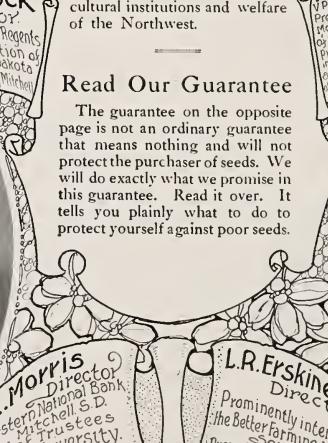
Isaac Lincoln, Director
First State Savings Bank of Mitchell
Member Better Farming Committee of the
S.D. State Bankers Association
Prop. Lincoln Ranch in Brule Co.
and of Riverview Herd of Red Polled Cattle.



L.R. Erskine, Director
Prominently interested in
the Better Farming Movement in
South Dakota
Pres. of the Royal Plantation Co. of Chicago



A.E. Hitchcock
Director
Pres. Board of Regents
of Education of
South Dakota
and of Mitchell



S.E. Morris, Director
Western National Bank
Pres. of Mitchell, S.D.
Pres. Board of Trustees
Dakota Wesleyan University.

Officers and Directors of the Dakota Improved Seed Co.

Mitchell, S. D.
Incorporated 1906

These men direct and control
the policy of this company.

Aside from their direct interest
in the Dakota Improved Seed
Co., each and every one of them
is directly interested in the agricultural
institutions and welfare of the Northwest.

Read Our Guarantee

The guarantee on the opposite page is not an ordinary guarantee
that means nothing and will not
protect the purchaser of seeds. We
will do exactly what we promise in
this guarantee. Read it over. It
tells you plainly what to do to
protect yourself against poor seeds.

GUARANTEE

THE Dakota Improved Seed Company guarantees the seeds it sells to be as represented as to quality and germination. The Company will replace any seeds or refund the money on any seeds sold by it that prove to be otherwise.

It shall be the duty of the purchaser of goods sold by the Company in order to claim the benefits of its guarantee: -

1. To order seeds early.
2. To inspect shipment carefully on arrival and report anything that appears wrong.
3. To take samples of all important bulk seeds in shipment. This applies particularly to seed corn, grass and clover seeds, and other main-crop seeds.
4. To test portion of sample for germination or send sample to U. S. Government Branch Laboratory, Columbia, Mo., or to your State Experimental Station.
5. If results of these tests are not as represented or are not satisfactory, to report this to the Company and adjustment will be made accordingly.
6. To make complaints, if any, as soon as the fact on which complaint is made can be determined. Complaints on the germination of seed corn must be made within two weeks after shipment is received and must be accompanied by an average sample of 100 kernels of corn taken from the unsatisfactory lot. Field results as to germination and purity may be referred to in making complaint but must not be depended upon as basis for settlement because field conditions are beyond the Company's control.

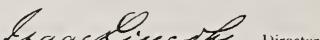
The Company will not insure a crop from seeds purchased as to description and productiveness because of the many factors which influence a crop and which are entirely beyond its control.

In no case will the liability of the Dakota Improved Seed Co. exceed the price paid for the seed purchased of the Company.

We the undersigned, officers and directors of the Dakota Improved Seed Co., of Mitchell, South Dakota, do hereby represent that the above guarantees have been made with and by the authority of the Board of Directors and that the credit of said Company is pledged to the fulfillment of this contract.



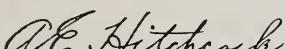
President and
Treasurer


Isaac Lincoln Director

Vice-President



Secretary and
Manager



Director



Director



Please Read Before Ordering

When orders are received from this catalog the Dakota Improved Seed Company assumes that the customer has read this page before placing his order.

Write plainly your name, postoffice, county and state on each and every order sent us. If shipment is to be by freight, be sure to state whether the railway station is the same as your postoffice or not.

Order early. A great many delays and other troubles can be avoided by ordering early and we will consider it an accommodation if you will do this.

Postage or express prepaid—Always state manner you wish your order sent, whether by mail, express or freight. In considering our prices, please bear in mind that we prepay the postage or express on seeds listed by the packet, ounce, fraction of an ounce, pint, third-pint, pound, fourth-pound or quart, unless otherwise stated. Seeds go by mail or express at the special prepaid rate of 8 cents per pound. The smallest charge by express is 10 cents. If you are located near an express office and your shipment weighs twenty ounces or more it is better to ship by express, as it is safer.

Cash must accompany order, and should be in the form of money order, bank draft or as currency in a registered letter. Stamps will be accepted for amounts under \$1.

Samples—We furnish samples of our farm seeds to prospective buyers on request. These are all sent free except with ear corn, on which a charge of 10 cents per ear is made to cover cost of mailing. Samples of corn shelled and graded are sent free. When orders are placed from samples always give sample numbers with the order.

Delays in shipment—If we cannot send your order the same day that it is received we will mail you a card stating that we have received your order and we state the amount of money inclosed and the number of the order. If this notice or the seeds themselves do not reach you in reasonable season write to us without delay, so that we can look the matter up. If your order can be filled within a few days this is all the notice we give. If for some reason shipment on a part or all of your order is unavoidably delayed, we will give you notice. It sometimes happens that we are out of stock or our stock may not be cleaned ready for shipment, or there may be other reasons. Write to us if your order does not arrive in due season.

Freight rates—On page 80 of this book is a table of freight rates on seeds from Mitchell to various parts of the United States. This is intended to assist the customer in determining the approximate cost of freight to his station without the trouble and delay often caused by waiting to secure this information from the railroad company.

Prices in this book are subject to change without notice—The prices quoted are based on the conditions prevailing at the time this book goes to press. Except with grass and clover seeds, we seldom find it necessary to deviate from these prices during the season, and we do not raise prices unless we find it necessary. If you desire to place an order for items on which the prices are likely to fluctuate or for large amounts of any seeds, it is better to write for firm prices before ordering, same to be good for immediate acceptance. Prompt attention will be given requests for quotations.

Insure your packages against loss or damage by mail—We have made arrangements with an insurance company to insure packages sent by mail at the following rates: Three cents insures a package up to \$5; 5 cents up to \$15; and 10 cents up to \$30. If you wish your packages insured please include the amount required and we will send you fully this value in extra seeds. You therefore get this insurance absolutely free.

Premium—On any order for seeds priced per **packet, ounce, fraction of an ounce or third-pint**, to the amount of \$1 or more, we allow a premium of 25 cents' worth of seeds for each \$1 sent with order. This means that for every \$1 sent for such seed, \$1.25 worth of seeds may be selected by you when ordering. This premium will not be allowed on Model Garden Collections or other special collections.

PREMIUM

Of 25 cents' worth of seeds extra
on each \$1 sent with order.

Does NOT apply on Wheeler's Model Garden Collection
or other special collections offered at less than regular
catalog quotations.

Does NOT apply on bulk seeds.

DOES apply on all orders of packets, ounce, fraction of
an ounce, and one-third pint.

Disco Order Sheet

Date _____ 191 _____

Dakota Improved Seed Co., Mitchell, So. Dak.

Gentlemen: Please send the following seeds, etc.,

by _____
[State here if wanted by mail, express or freight.]

Name _____

Post Office _____

State	County
-------	--------

B.D. P.O. Box or St. No.

Nearest Railway Station _____
Second name of station which needs to be sent if different from P.O.

Is there a freight agent at your railroad station?

If there is no freight agent at your railroad station _____
If there is no freight agent at your shipping point, you must send money to prepay the freight charges. (See table of freight rates on inside back cover.) If there is an agent you can pay the freight when shipment reaches you. It is only necessary to prepay when there is no agent at your station. The charges will be the same.

This order is placed subject to the guarantee and conditions of sale given on page 3 of the Disco Seed Book.

STATE		AMOUNT	ENCLOSED
<i>Draft</i>
<i>Money Order</i>
<i>Currency</i>
<i>Stamps</i>
<i>Total</i>

PLEASE DO NOT USE THIS SPACE

Order Received

Order No.

Mail.....	Charges
Express.....	Collect.....
Freight.....	Prepaid.....
<i>Filled by</i>	<i>Date</i>
	<i>Checked by</i>
	<i>How Shipped</i>

Cut Off On This Line

Keep a Copy of this Order

Amount forward [over]



Dakota Improved



Seed Company



**We will consider it a special favor if you write below the names
of some of your friends who are likely to use seeds**

NAMES	POST OFFICE	STATE

Order Sheet—(Continued)

Total, - - -

If more room is needed for list of addenda, attach another sheet of paper to this order blank for remainder of list.



Farm Crop Seeds

It has been the aim of the Dakota Improved Seed Company to give special attention to the handling of the seeds of improved strains of the standard farm crops. With alfalfa, corn, millet and some other crops we have made very marked progress and have to offer varieties and registered stocks better adapted to severe northern conditions than can be obtained anywhere else to our knowledge. With some of the standard crops, such as wheat, oats, barley and flax, the best we have been able to do is to introduce one or two improved varieties and serve as a medium of distribution for the improved strains introduced by the various experiment stations. This year we have no new or specially selected varieties of these to offer, so list here only those that have been thoroughly tried and of which we have stocks to sell. We will, however, call special attention here to emmer or speltz. Corn, alfalfa, millet and other farm crop specials will be fully described elsewhere in the Disco Seed Book.

Emmer or Speltz

This crop is becoming more popular every year. Very few farmers in the Northwestern great plains region can afford to be without it. It produces a good yield under adverse circumstances, where other crops would fail. It will stand more dry weather than any other grain crops, with the possible exception of durum wheat. It produces more food value per acre than any of our other grains and is a valuable feed for all kinds of stock. The plant is almost entirely free from rust, smut and other grain diseases.

We wish to do everything we can to encourage the growing of emmer in the Northwest. Farmers in the semi-arid portions of the great plains region who depend on such crops as Swedish Select oats, Hanna No. 24 barley, brome-grass and alfalfa need have no more fear of crop failures than those in the regions of more abundant rainfall. Emmer should occupy a place in every dry farming rotation. Prices given below.

Bags included at these prices.

	Bushel	Sack of 2½ bu.	4 sacks or more per sack
Wheat, Minnesota No. 169		\$3.50	\$3.25
S. D. Bearded Red Fife.....	\$1.50		
Kubanka Durum		Write for prices.	
Oats, Sixty-day	1.00	2.25	2.00
Swedish Select	1.00	2.25	2.00
Barley		None to offer.	
Buckwheat, Silver Hull	1.50	3.50	3.25
Japanese	1.50	3.50	3.25
Flax, Minnesota No. 25 North Dakota No. 152 Disco Brand, Northern grown }		Write for prices on flax after March 15th.	
Canada Field Peas	2.75	6.00	5.75
Emmer or Speltz	1.00	2.00	1.90
Potatoes		None to offer.	

Field Corn, Rape, Sorghum and Millet

are priced on page 8 and are fully described in the Disco Corn Book and pages 33 to 48 of the Disco Seed Book.

Alfalfas, Clovers and Grass Seeds

are priced on page 9 and are fully described in the Disco Alfalfa Book and pages 49 to 64 of the Disco Seed Book. Alfalfa and Seed Corn are our specialties and we invite your inspection of the varieties and stocks we have to offer you. There are none better.



Heads of Emmer or Speltz.
Very Similar to Wheat Heads.

*Dakota Improved**Seed Company*

Disco Seed Corn

For full description of the varieties of seed corn and other crops listed on this page we refer you to pages 1 to 16 of the Disco Corn Book or pages 33 to 48 of the Disco Seed Book.

Prices given here are those in force January 1, 1914, and we have anticipated as far as possible the prevailing prices for the season, but are obliged to hold these subject to change at any time without notice. Bags included at these prices.

SHELLLED AND GRADED.

	Days to Maturity	1/4 bu.	Bu.	4 bu. or over	On the Ear, Crated or Baled, per bushel
Disco-Pride , Improved strain of Brown County Yellow Dent...	85	\$0.75	\$2.50	\$2.25	
"Stock seed" from Montana and Northern South Dakota.					
Northwestern Dent , Standard Variety. Early Selection.....	85	.85	2.75	2.50	
"Stock seed" from North Dakota and Central Minnesota.					
Minnesota No. 23 , Earliest recommended by Minnesota Exp. Sta.	85	.75	2.50	2.25	
"Stock seed" from Minnesota and South Dakota.					
Disco 85-Day White , Improved strain of Payne's White Dent...	85	.75	2.50	2.25	
"Stock seed" from Northern South Dakota.					
Disco 90-Day White , Disco-White Dent of 1913.....	90	.75	2.50	2.25	\$3.00
Bred and grown in the vicinity of Mitchell, S. D.					
Disco 100-Day White , Acclimated Silver King.....	100	.75	2.50	2.25	
Grown near Mitchell, S. D.					
Rustier White Dent , South Dakota strain.....	90	.75	2.50	2.25	3.00
Grown near Mitchell, S. D.					
Minnesota No. 13 , Minnesota Experiment Station strain.....	90	.75	2.50	2.25	3.00
"Stock seed" grown in Central Minnesota.					
Disco-Murdock , Improved strain of Early Murdock.....	100	.75	2.50	2.25	3.00
Bred and grown in the vicinity of Mitchell, S. D.					
Riverview Special	100	.75	2.50	2.25	
Bred and grown near Mitchell, S. D.					
Gehu Flint , Earliest flint variety.....	80	.90	3.00	2.75	
"Stock seed" grown in North Dakota.					
Disco Squaw Corn , All colors of rainbow.....	85	.90	3.00	2.75	
"Stock seed" grown in Central South Dakota.					
Disco Amber Flint , a very productive early variety.....	..	.85	2.75	2.50	
Bred and grown near Mitchell, S. D.					
Second Grade Seed Corn , Make first and second choice of above varieties, as stocks are limited.....	..	.60	1.75	1.50	
Northern Fodder Corn , Earliest dent varieties used, 4 to 6 ft..	..	.50	1.25	1.10	
Medium Fodder Corn , Early to medium varieties, 6 to 8 ft.....	..	.50	1.25	1.10	
Early Sweet Fodder , Fine for early feed.....	..	.70	2.00	1.75	
Evergreen Sweet Fodder , a great producer.....	..	.65	1.75	1.50	
Evergreen Sweet Corn , Choice stock for field or garden.....	..	.90	2.75	2.50	

Explanation of Terms Used Above

"STOCK SEED." Seed especially bred and selected with extra care from which seed is to be grown for sale. The source of "stock seed" from which your seed is grown is very important. We give source of our "stock seed" in above table. Most of our seed for sale is grown near Mitchell, S. D.

ON THE EAR. Only where price on the ear is given will seed corn be sold in this way.

SHELLLED AND GRADED—The commercial grading consists in removing the poor shaped kernels, the small tip kernels and large butt kernels, leaving one good grade of seed corn.

DAYS TO MATURE—We give here merely for comparison the approximate number of days required for these varieties to mature good corn under favorable conditions in South Dakota.

Bags are included at these prices.

Dwarf Essex Rape

PRICES—Pound, postpaid, 25 cents. By express or freight at purchaser's expense—5 pounds, 60 cents; 10 pounds, \$1.00; 25 pounds, \$2.25; 100 pounds or over at \$8.00 per 100 pounds.

Sorghum

Variety	Lb.	By Express or Freight				
		Postpaid	1 lb.	5 lbs.	10 lbs.	50 lbs.	100 lbs.
Amber Cane , for forage.....	\$0.25	\$0.15	\$0.40	\$0.70	\$2.00	\$3.50
Kaffir Corn , for grain or forage.....	.25	.15	.35	.60	1.50	2.50

Millet

We are one of the largest growers and shippers of millet in the Northwest and are in a position to furnish you the best seed that can be produced. Prices are subject to change without notice.

Variety	Weight per Bu.	Sack of 4 Sacks			
		1/4 Bu.	Bu.	2 1/2 Bu.	per Sk.
Selected Kursk	50 lbs.	\$0.60	\$1.75	\$3.75	\$3.50
Disco Kursk No. 1	50 lbs.	.75	2.00	4.00	..
Siberian	50 lbs.	.60	1.75	3.50	3.25
Germane , South Dakota grown.....	50 lbs.	.60	1.75	3.50	3.25
Japanese	36 lbs.	.50	1.50	3.25	3.00
Early Fortune or other broomcorn varieties available.	50 lbs.	.60	1.75	3.75	3.50

Full descriptions of Field Corn, Rape, Sorghums and Millets are given on pages 33 to 48.

Disco Alfalfa Seed

There is no one crop about which there is more written and more agitation than alfalfa. It has been under cultivation for thousands of years and yet there is no crop of nearly equal importance about which so little is known over a large part of the United States and Canada. For this reason we have written to considerable length in the Disco Seed Book and the Disco Alfalfa Book about this important crop. We have given full description and history of the so-called varieties, explanation of the commercial terms in common use as applied to alfalfa, comprehensive cultural directions for growing alfalfa and also a full outline of our method of growing and handling alfalfa seed.

It will be worth while for anyone interested in alfalfa to read these pages and learn exactly what is meant by the terms Commercial Alfalfa Seed, Disco Registered Alfalfas, Disco Pedigreed Alfalfas, Hardy Types, Acclimatization, Inoculation and many others that are discussed. It is also important to know just what value can be placed upon the commercial terms, such as Turkestan, Montana, Western, European and others when applied to alfalfa seed.

To lend interest to the descriptions we have also told how one organization is using about \$30,000.00 worth of Disco Registered Alfalfa seed this season.

Prices of Alfalfa Seed

In effect January, 1914. Subject to change without notice.

Write for special prices on larger quantities or special stocks. There is no alfalfa proposition too large or too small for us to handle.

Following prices include bags, but not postage, express or freight. If to go by mail add 8 cents per pound for postage. Seeds do not take special parcel post rates.

For full description of terms used in designating our various stocks of alfalfas, clovers and grass seeds and cultural directions for same we refer to pages 49 to 64 of the Disco Seed Book or pages 1 to 16 of the Disco Alfalfa Book.

Commercial Alfalfa.	1 lb.	4 lbs.	20 lbs.	100 lbs.
Dakota Grown, Disco Brand.....	\$0.30	\$1.00	\$4.50	\$20.00
Dakota Grown, Emerald Brand.....	.25	.80	3.50	16.00

Disco Registered Alfalfas.	1 lb.	4 lbs.	20 lbs.	100 lbs.
Disco 28, Disco 38 and other specially desirable strains of over 25 years' performance record in South Dakota or Montana .....	.50	1.40	6.00	28.00
Disco Numbers, covering well selected strains of over 10 years' record in South Dakota.....	.40	1.25	5.50	25.00

Disco Pedigreed Alfalfas, Including Disco-Baltic, Disco-Grimm and pedigreed selections from these and other well known hardy alfalfas..	1 lb.	4 lbs.	20 lbs.	100 lbs.
.....	1.00	3.50	15.00	

For full descriptions of the above see pages 1 to 16 of the Disco Alfalfa Book or pages 49 to 64 of the Disco Seed Book.

Prices of Clovers and Grasses

In effect January, 1914. Subject to change without notice.

Bags included at these prices. If to go by mail add 8 cents per pound for postage.

For descriptions of clovers and grasses we refer to pages 61 and 63 of the Disco Seed Book or pages 13 and 15 of the Disco Alfalfa Book.

	1 lb.	10 lbs.	Bu.	100 lbs.
Medium Red Clover, Disco Brand.....	\$0.25	\$2.25	\$12.00	\$20.00
Medium Red Clover, Emerald Brand.....	.25	2.00	11.00	18.00
Mammoth Red Clover, Disco Brand.....	.25	2.25	12.00	20.00
Mammoth Red Clover, Emerald Brand.....	.25	2.00	11.00	18.00
Alsike Clover, Disco Brand.....			Write for Prices.	
Alsike Clover, Emerald Brand.....			Write for Prices.	
White or Dutch Clover.....	.40	3.50	...	....
Sweet Clover, White or Yellow-Flowered.....			Write for Prices.	
Timothy, Disco Brand.....	.15	1.00	4.25	9.00
Timothy, Emerald Brand.....	...	.90	3.75	7.75
Russian Brome Grass.....			Write for Prices.	
English Blue Grass.....			Write for Prices.	
Slender Wheat Grass.....			Write for Prices.	
Kentucky Blue Grass.....	.25	2.00	...	18.00
Disco Lawn Mixture.....	...	.25	2.25	17.50

Full descriptions of Alfalfas, Clovers and Grasses given on pages 49 to 63.



Mammoth Long Red Mangels

Field Root Crops

The American people pay altogether too little attention to the growing of root crops for their stock. Roots occupy a position in both crop rotation and feeding rations that cannot be taken up by any other crops.

Mangel-Wurzel

GOLDEN TANKARD—Yellow in color; flesh is solid and firm. Extremely productive and valued highly by all dairymen and other feeders as a field root crop.

MAMMOTH LONG RED—Roots are very large; deep red in color. Very productive and very popular. This has given remarkable yields in South Dakota.

GIANT YELLOW INTERMEDIATE—A variety intermediate between the long and the globe shaped varieties. Flesh white, firm and solid.

Any variety, by mail, postpaid—ounce, 5 cents; pound, 50 cents. By express or freight—pound, 40 cents; 5 pounds or over at 30 cents per pound.

Sugar Beets

KLEIN WANZLEBEN—This variety is perhaps more extensively grown than any other. It is well adapted for growing in the Northwest.

VILMORIN'S IMPROVED—This variety has been developed through continued selections made by the famous seedsmen of France, and represents the best that can be obtained in sugar beet varieties at the present time. Prices same as for mangel-wurzel.

Carrot

MASTODON—This is the heaviest yielding carrot grown, yielding a greater weight of roots per acre than any other sort. The flesh is white, solid and sweet. It is a vast improvement over the older white and green Belgian sorts which are usually grown. The roots are short, making them easy to harvest.

VICTORIA—A very large, fine stock carrot. This is the best and heaviest yielding yellow carrot that we know of. It appears to be a heavy cropper on all kinds of soil, but is especially adapted to rich, strong land.

Either variety—ounce, 10 cents; $\frac{1}{4}$ pound, 30 cents; pound, 90 cents; postpaid. By express or freight—pound, 80 cents; 5 pounds, \$3.75; 10 pounds, \$7.

Rutabaga

MONARCH—The best and highest yielding rutabaga grown. It usually yields from two to five tons more to the acre than any other variety. We can recommend it very highly to all stockmen.

PURPLE TOP YELLOW—This does not give the immense yield per acre that is produced by the Monarch rutabaga, but, besides being used for stock feeding, it is suitable for table use as well. Roots grow to a large size and are of fine quality.

GOLDEN GLOBE—Very similar to the Purple Top Yellow, except for the color of the crown, which is green instead of purple. An excellent variety and a good yielder.

Either variety—ounce, 10 cents; $\frac{1}{4}$ pound, 20 cents; pound, 50 cents; postpaid. By express or freight—pound, 40 cents; 5 pounds or over at 30 cents per pound.

Flowers

Sweet Peas



No more popular flower is grown than the sweet pea, either for display in the garden or for cut flowers. They are very easily grown if a few general directions are followed. They should be sown very early in the spring and the seeds should be placed several inches deep in the ground and covered gradually. The planting of sweet peas late in the season and only an inch deep is the cause of a large number of failures. We are not listing separate named varieties, but the Disco mixture we offer is made up of the best named varieties we can secure, ranging in color from a very dark maroon to light pink and white. This mixture has given marked satisfaction wherever it has been tried during the past two years. We can recommend it for general planting.

DISCO SPECIAL MIXTURE—per $\frac{1}{2}$ ounce, 15 cents; ounce, 25 cents; $\frac{1}{4}$ pound, 50 cents; pound, \$1.50; postpaid.

COUNTESS SPENCER MIXED—The flowers of the Spencer Type of sweet peas are of unusually large size and beautifully crumpled or waved. These are rapidly gaining in public favor and deserve to occupy a very important place in every flower garden. As the plants are shy seeders, the seed will always be more expensive than the common type. Per ounce, 35 cents; $\frac{1}{4}$ pound, 75 cents; postpaid.

"Disco-Beauty" Collection

Twenty varieties of choicest flower seeds.

Regular catalog price, \$1.20. Our special collection price, 50 cents.

Includes one regular size packet of each of the following:

Alyssum, Sweet Alyssum.
Asters, Queen of the Market.
Balsams, Double Camellia-flowered.
Candytuft, All Colors Mixed.
Centauraea, Imperialis Mixed.
Cypress Vine, Mixed Colors.
Dianthus, Double Chinese Pinks.
Eschscholtzia, Golden West.
Four-o'clock, Mixed Colors.
Hollyhock, Mammoth Allegheny.

Marigolds, Double Dwarf African.
Mignonette, Many Kinds Mixed.
Morning Glory, All Colors.
Nasturtiums, Dwarf, Mixed Colors.
Pansies, Fine Mixture.
Petunia, Fine Mixture.
Phlox, Fine Mixed.
Poppy, Special Double Mixed.
Portulaca, All Colors.
Verbena, Fine Mammoth.

"Disco-Junior" Collection

Twelve varieties of finest blooming annuals.

Regular catalog price, 60 cents. Our special collection price, 25 cents.

Includes one regular packet of each of the following twelve varieties:

Alyssum, Sweet Alyssum.
Balsams, Double Camellia-flowered.
Candytuft, All Colors Mixed.
Dianthus, Double Chinese Pinks.
Eschscholtzia, Golden West.
Four-o'clock, Mixed Colors.

Mignonette, Many Kinds Mixed.
Morning Glory, All Colors.
Pansies, Fine Mixture.
Petunia, Fine Mixture.
Portulaca, All Colors.
Poppy, Special Double Mixed.

Flowers

AGERATUM—One of the best summer blooming plants grown from seeds.

Dwarf Blue Perfection—Plant nine inches high; flowers deep blue; 10 cents.

Imperial Dwarf White—Plant six inches high; fine for borders; 10 cents.

ALYSSUM—One of the easiest grown summer bloomers; fine for edgings.

Common Sweet Alyssum—5 cents.

Little Gem—Extra fine, dwarf; 10 cents.

ANTIRRHINUM—Snap Dragon; easily raised from seed in sunny locations.

Special Mixture of giant flower sorts; the very best obtainable; 10 cents.

ASTERS—Beautiful for bedding or cut flowers.

Queen of the Market—The best early sort; includes many colors; 10 cents.

Giant Comet—A handsome, tall, large flowering sort; 10 cents.

Paeony-flowered Perfection—Flowers very double, large, borne on long stems; 10 cents.

Finest Dwarf Mixed—An extra choice mixture of dwarf varieties; 10 cents.

BALSAMS—Will grow under almost any condition.

Double Camellia-flowered—Very fine; 5 cents.

Finest Dwarf Mixed—5 cents.

CANDYTUFT—A beautiful annual bedding and border plant; sow in open ground.

Giant Hyacinth-flowered White—An improved strain, far superior to the ordinary kind; 10 cents.

Choice Mixed—All sorts and colors; 5 cents.

CARNATION

Dwarf Marguerite—Blooms in a few months from seed; transplant into beds or borders; 10 cents.

CENTAUREA

Cyanus, Bachelor's Button—Very well known; excellent for cut flowers; all colors; 5 cents.

Imperialis, Sweet Sultan—One of the finest for cut flowers; very easily grown; mixed colors; 10 cents.

CYPRESS VINE—A fine but not rank climber; flowers red and white; leaves finely cut.

Choice Mixed—5 cents.

COSMOS—Very popular for cut flowers; grows and blooms with the greatest freedom.

Early-flowering Hybrids Mixed—10 cents.

DAHLIA—Can be raised from seed and will bloom the first year.

Best Mixture of Double Varieties—15 cts.

Single Giant Perfection Mixed—10 cents.

DAISY

Shasta Daisy—One of the finest new perennials for herbaceous borders and also for cut flowers; hardy anywhere in this latitude with very slight protection; produces strong plants first year from seed; 10 cents.

DIANTHUS PINKS—Present one of the richest arrays of colors of any garden plant.

Choicest Single Mixed—5 cents.

Choicest Double Mixed—5 cents.

Single Fringed—5 cents.

ESCHSCHOLTZIA or CALIFORNIA POPPY—Will grow and bloom under all conditions; a very good bedding plant.

Golden West—Very fine; 10 cents.

Mixed—5 cents.



Flowers

FOUR-O'CLOCK—An old-fashioned but very popular bedding plant; 5 cents.

FOXGLOVE—Particularly desirable for borders and among shrubbery; blooms the second season.

Monstrosa—Very large and fine; 10 cents.

Gloxinia-flowered—5 cents.

GOURLDS—Rank-growing, ornamental climbers.

Mixed—5 cents.

HOLLYHOCK—When grown in the right place, there is no plant that can add more to the appearance of a yard.

Finest Single—5 cents.

Prize Mixture of all the finest named double varieties; 10 cents.

Allegheny—Very large, semi-double flowers with frilled edges; 10 cents.

LARKSPUR—Suitable for borders and for cut flowers.

Double Dwarf Rocket—5 cents.

Double Tall Rocket—5 cents.

MARIGOLDS—Old favorite free flowering annuals of easy culture.

Special Tall Mixed—Includes the finest named tall varieties in grand mixture; 10 cents.

Special Dwarf Mixed—10 cents.

Double Dwarf African Mixed—5 cents.

MIGNONETTE—One of the most fragrant of garden flowers.

Golden Machett—Very fine; 10 cents.

Goliath—Enormous spikes of flowers; 10 cents.

Giant Pyramidal—A very good strain; 5 cents.

MORNING GLORY—Popular, strong growing climbers.

All Colors Mixed—5 cents.

Imperial Japanese—Flowers of extraordinary beauty; 10 cents.

NASTURTIUMS—No other annual will produce such a lavish profusion of flowers for so long a time, with so little attention.

Finest Dwarf Mixed—Packet, 5 cents; ounce, 10 cents.

Tall Mixed—Packet, 5 cents; ounce, 10 cents.

PANSIES—When sown in summer or fall and protected during winter produces the most beautiful array of flowers in early spring; the largest flowers are produced in cool weather.

Imperial German Mixed—5 cts.

Disco Mixture of Finest Sorts—10 cents.

Separate Colors—White, yellow, blue, black or red, 5 cents each.

PETUNIA—Once started, grow like weeds from early summer until frost.

Fine Mixed—5 cents.

Special Dwarf Mixture—Made up from six of the finest small-flowered dwarf sorts; nothing better for a brilliant bedding effect; 15 cents.



Flowers



PHLOX—One of the best bedding plants; a great variety of colors.

Large-flowered Mixture—5 cents.

Dwarf—Six to eight inches high; for edging; 5 cents.

POPPY—Flowers brilliant and showy; very easily grown by sowing seed in the open ground; a striking display can be had with little work.

Special Single Mixed—5 cents.

Special Double Mixed—5 cents.

Dwarf Shirley—Delicate shades; 5 cents.

Mixture of all kinds; 5 cents.

PORTULACA or ROSE MOSS—Grows well under most conditions, but, like its cousin the Purslane, does best in warm weather; used for edgings.

Single Mixed—5 cents.

Double Mixed—Produces a good proportion of double flowers; 10 cents.

RICINUS or CASTOR OIL BEAN—A large and beautiful tropical plant; makes a fine showing among shrubbery or in clumps.

Mixed—5 cents.

Zanzibarensis—The largest and most magnificent variety; 10 cents.

SUNFLOWER—Very desirable for fence-rows, hedges or borders.

Miniature Sunflower—Three feet tall; produces an abundance of single flowers; 10 cents.

Double Chrysanthemum-flowered—5 cts.

VERBENA—A beautiful spreading plant for bedding or cut flowers; our seed is the very choicest obtainable.

Mammoth White—5 cents.

Mammoth Pink—5 cents.

Mammoth Mixed—All colors; 5 cents.

ZINNIAS—A showy bedding plant; very desirable with shrubbery or in borders; easily grown.

Finest Double Mixed—5 cents.

Double Dwarf Mixed—5 cents.

Gladiolus

The gladiolus is one of the easiest flowers to grow that we have in our gardens. No extra care is required to produce the finest display of bloom. Every bulb that we offer is capable of producing a large spike of beautiful flowers the first season. They are not the small bulbs that require two years' growth before blooming, but every one of them is an extra large blooming size bulb. Everybody should try at least a few in the flower garden this year. With gladiolus one does not have to secure new bulbs every year. Once started, they will increase every year, so that you will have two or three times as many bulbs each year than you had before. All that is required is to take them up when the stalks have dried down to the ground in the fall and store them in a cool, dry place over winter.

DISCO-SPECIAL MIXTURE—This includes one of the best arrays of colors that we know of. Hardly any two will be alike. They range from the deep red shades to light yellow and pure white. The bulbs are all of blooming size. Price, 40 cents per dozen; 40 bulbs for \$1.

Garden Seed Collections

One of the heaviest items of expense in the handling of garden seed orders is usually the gathering of the different packets and varieties together and packing them for shipment. This must necessarily be done with each individual order where the seeds are selected by the customer. In order to do away with much of this expense, and thus give many more seeds for the same money, we are offering several collections of seeds already put up ready to mail. These include the best varieties we handle and are put up to meet the demands of the one who has only a few square feet in the back yard or the gardener who grows all kinds of vegetables, using from a fraction of an acre to an acre or more. Whatever the size of your garden, you save money by using one of these collections.

By putting up hundreds of these at one time we can do this at very little expense for the packing. By this system you pay for the seeds you are getting and are not obliged to pay for the time usually required by the packer who puts up an individual order.

By a careful study of the three collections we are offering you will undoubtedly find one that will just meet your needs. If it does not exactly do so you can probably save some by ordering one of the smaller collections and adding to it according to your individual needs.

On account of putting up a large number of these collections at one time we cannot make any change in the varieties included in the collections, so please do not request us to do this.

"Disco - 50" Collection

This collection is intended for the small gardener who wishes to grow a good variety, but hasn't the room for everything or a large amount of any one thing. This is also a good collection to order if one has a larger garden, but wishes to select a number of special varieties from the catalog to add to the number included in the collection.

Eighteen Varieties. Regular catalog value, \$1.05. Collection price, 50 cents.

Beans, Bush Wax Variety.
Beet, Crimson Globe or Egyptian.
Cabbage, Eureka or Wakefield.
Carrot, Oxheart or Chantenay.
Sweetcorn, Golden Bantam.
Lettuce, California Cream Butter.
Lettuce, Prizehead.
Onion, Red Globe or Wethersfield.
Parsley, Extra Moss Curled.

Parsnip, Hollow Crown or Guernsey.
Pepper, Ruby King or Bull Nose.
Radish, White Icicle.
Radish, Rosy Gem.
Tomato, Disco Thornber.
Nasturtiums, Finest Dwarf.
Four-o'clock, Mixed Colors.
Pansy, Disco Mixture.
Sweet Peas, Disco Mixed.

"Disco - 25" Trial Collection

The man who lives in town and gets a spade into his hand when the warm days of spring give him the garden fever, or who follows his wife's instructions and "makes garden," doesn't wish the whole string of vegetables and flowers listed in the catalog, but wants those that take but little room and can be easily handled in a 2x4 spot in the back yard.

This collection meets this demand exactly. It is also a good trial collection for the gardener who is extremely critical as to the seed he buys and is skeptical of a firm that guarantees its seeds. He wishes to try them before buying in quantity. This collection or the "Disco 50," if given a fair trial, will convince any gardener that our reason for guaranteeing our seeds is not for the advertising it gives us, but because we have confidence that our seeds will stand the test.

One packet each of ten varieties. Catalog value, 60 cents. Collection price, 25 cents.

Beet, Crimson Globe or Egyptian.
Carrot, Oxheart or Chantenay.
Lettuce, California Cream Butter.
Onion, Red Globe or Wethersfield.
Parsnip, Hollow Crown or Guernsey.

Radish, Rosy Gem.
Tomato, Disco Thornber.
Nasturtiums, Finest Dwarf.
Sweet Peas, Disco Mixed.
Four-o'clock, Mixed Colors.

Wheeler's Model Garden Collection

Thirty choice varieties. Regular value, \$2. Collection price, \$1.

Every one who intends to raise a garden should order at least one of these collections. This special assortment includes almost everything that will be needed to supply the average family with vegetables all the year round. These are our very choicest varieties—thirty in all—the same quality you buy at regular prices, but by packing a large quantity of the same seeds at once we can afford to sell for less. We also desire to introduce our improved vegetable seeds to all who have a garden, therefore, as a special feature, we offer these thirty choice varieties of **guaranteed seeds at half price.** Don't overlook Wheeler's Model Garden Collection when making out your order. Complete list of varieties on inside of front cover.



Beans

Culture—Beans do not make any great demand on soil fertility. Not only will they grow on almost any soil, but they tend to benefit rather than impoverish soils upon which they are grown. It is safe to plant them only after the danger of late frost is past. For extra early string beans, however, it is customary to plant a few earlier and run the risk of being frozen. Sow bush varieties in drills two or three inches apart in the row. Hoe well in dry weather to keep down the weeds. Sow every two weeks for succession.

DAVIS KIDNEY WAX—One of the most hardy and productive wax beans. Pods long, white, straight, crisp and tender. Vines rustless and very vigorous, bearing the pods in clusters. Seed kidney-shaped and white (Fig. A).

PENCIL POD BLACK WAX—Very productive and popular. Pods round and deeply saddle-backed, six to seven inches long, light golden yellow color (Fig. B).

EXTRA EARLY RED VALENTINE—A popular standard, early, green-podded, bunch bean. Bushes about fifteen inches high, productive of round, fleshy pods of good flavor (Fig. C).

IMPROVED GERMAN BLACK WAX—One of the most popular and productive of the wax podded varieties. Pods medium length, curved, cylindrical, fleshy and of a clear yellowish white. Remain for some time in condition for use (Fig. D).

WARDWELL'S KIDNEY WAX—A standard variety of strong, upright growth, early and very productive. Pods straight, flat, rich golden yellow in color and of good quality. This variety is so well and favorably known that it recommends itself to more general use (Fig. E).

BURPEE'S STRINGLESS GREEN POD—An early green podded bean of fine quality. Pods are large, round, straight, and perfectly stringless. The best green-podded bunch bean for the home garden. Valuable for a succession of plantings. It continues in bearing and furnishes string beans throughout the season (Fig. F).

BURPEE'S BUSH LIMA—The bush form of the large Lima bean. Very productive of large pods. Not recommended for planting on a large scale much north of the southern boundary of Minnesota.

SIEBERT'S EARLY POLE LIMA—The earliest of the large Limas. The vines are very productive and the pods are of immense size.

HENDERSON'S BUSH LIMA—This is the earliest of the Limas. A bush selection of the small Sieva Lima. The bushes are very productive and the beans when young are of excellent flavor.

WHITE NAVY or PEA BEAN—The standard variety for field culture for dry shell beans.

Prices—Any variety listed above—ounce packet, 5 cents; $\frac{1}{2}$ pint, 10 cents; pint, 25 cents; quart, 45 cents; postpaid. By express or freight—quart, 30 cents. For prices on larger quantities, write for special quotations.



A



D



E



F

Disco Leader Bean

A new-old bean of great merit—new because it has not been known by a definite description and name, old because it has been grown in the Northwest for thirty years or more. Wherever it is known in the Northwest it has become very popular and has almost superseded the common Pea or Navy Bean. In comparison with the Pea or Navy Bean it is earlier, more productive, has less tendency to produce runners and has a flavor that is very popular. At Aberdeen and other towns of South Dakota where this bean has been known for years it sells on the market more readily and at better prices than the small Navy. It is used only as a dry shell bean, and the fact that the beans are two or three times as large as the common Navy Bean makes the expense of hand-sorting or hand-picking only about half that of the common variety.

This bean is not an unknown quantity but a tried variety and we can recommend it very highly to anyone in the Northwest wanting the earliest, most drouth-resistant, most productive and best flavored dry shell bean on the market. $\frac{1}{4}$ pint, 10 cents; pint, 25 cents; quart, 40 cents; postpaid. By express or freight—quart, 25 cents; peck, \$1.25; bushel, \$4.50.

Beet

Culture—Sow as soon as the ground can be worked in the spring for an early crop, and from ten days to two weeks later for general planting. One or two plantings of the same variety or one planting of an early and a late variety will supply fresh beets for the entire season, for they can be eaten from the time they are an inch in diameter until they mature. Sow in drills sixteen inches to two feet apart for the garden varieties, and

eighteen inches to two and one-half feet for the field or stock beets.

CRIMSON GLOBE — A very good early and main-crop variety of globular shape, deep crimson color, fine quality and handsome appearance.

CROSBY'S EGYPTIAN — Extra early; dark red in color. An improved strain of the original Egyptian. There is no finer extra early beet offered.

DETROIT DARK RED — An excellent main-crop garden beet. Noted for its small tops and upright growth. Roots globular, blood red in color, remaining tender and sweet for a long time.

ECLIPSE — A very popular early beet. Very productive and of excellent quality. Roots large, round, smooth and blood red. A good variety for either home use or market.

EDMAND'S BLOOD TURNIP — A valuable sort much grown by market gardeners because of its regular shape, early maturity, fine flavor and good qualities.

SWISS CHARD OR SPINACH BEET — This does not make edible roots, like the regular garden beets, but is grown for the broad, white leaf-stalks, which are bunched and cooked in the same manner as asparagus, and make a delicious summer vegetable. The young leaves may be gathered also and cooked like spinach.

Any variety listed above, postpaid— $\frac{1}{4}$ ounce, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 20 cents. See "Field Root Crops," page 10, for mangels and sugar beets.

ASPARAGUS—COLUMBIAN MAMMOTH WHITE — A distinct and valuable variety. Produces an abundance of clear white shoots which remain white as long as fit for use. Packet, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 25 cents; pound, 75 cents; postpaid.

CONOVER'S COLOSSAL — This is the standard variety. It is the same as the famous French variety, Argenteuil. It is considered less liable to rust than most other varieties. Packet, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 20 cents; pound, 55 cents; postpaid.

BROCCOLI—PURPLE CAPE — The standard variety, forming close, compact heads of a brownish purple color. Packet, 5 cents; ounce, 35 cents; postpaid.

BRUSSELS SPROUTS—IMPROVED DWARF — A very good sort, producing many "small cabbages" of delicate flavor. Packet, 5 cents; ounce, 20 cents; postpaid.

Cabbage

Culture—No soil can be too rich for the cabbage. Plant food in an available form is absolutely necessary for the production of good heads. The seed may be sown directly in the field or it may be sown in boxes or frames and transplanted to the garden or field. The latter is the more general practice, because of less danger from the cutworms and flea beetles which trouble the young plants before they are able to take care of themselves. One-fourth pound of seed will ordinarily plant an acre. The small heading varieties, such as Early Jersey Wakefield or Winnigstadt, may be transplanted two or three feet apart each way, while the larger varieties require three to four feet.

DISCO-EUREKA—A very early cabbage having small round heads. In our trial grounds this produced 95 per cent of good heads. In Bulletin 91, from the South Dakota Agricultural College, this is reported as the earliest out of 127 varieties and as heading 100 per cent.

EARLY JERSEY WAKEFIELD—The popular first early cabbage. Heads cone-shaped, solid, with few outside leaves. Very desirable for home or market.

CHARLESTON WAKEFIELD—This variety is similar to Early Jersey Wakefield and is supposed to be about ten days later. In our trial grounds in 1908 and 1909 this variety was the best and surest heading early cabbage and proved to be just about as early as the Early Jersey Wakefield.



Disco-Summer Cabbage

This is one of the most remarkable cabbage introductions that has been brought to our notice for years. In general type and shape of head it resembles very much the well known Danish Ball Head or the Hollander. It differs from these, however, in being extremely early. It is almost as early as the Early Jersey Wakefield, but has heads two or three times as large as this well known early cabbage. This entirely new introduction, on account of its great merit, will undoubtedly very soon become as prominent among early varieties as its winter companion, the Danish Ball Head, is among the later sorts. We recommend this cabbage to every gardener for trial. Packet, 10 cents; ounce, 55 cents.

COPENHAGEN MARKET—A new cabbage of great merit. Heads large, round and solid. As early as the cone-shaped varieties and as large as most later sorts. Packet, 10 cents; ounce, 45 cents.

HOLLANDER OR DUTCH WINTER—Similar to the Danish Ball Head, but shorter stemmed. Fine in quality, medium size and an excellent winter keeper. Largely grown in all cabbage growing districts.

DANISH BALL HEAD—Our seed of this great variety is Danish grown from selected stock of the true tall-stemmed strain. This is distinguished from the Hollander or Dwarf Amager by the length of stem. The heads are round, very solid and of excellent market size. A fine winter keeper.

PREMIUM FLAT DUTCH—An improved strain of the old standard Flat Dutch introduced into this country by the early settlers. Not yet improved upon as a large, late sort.

DANISH STONEHEAD—The best, largest and surest heading red cabbage. Used mostly for pickling.

Any variety except where noted—packet of 300 or more seeds, 5 cents; ounce, 20 cents; $\frac{1}{4}$ pound, 60 cents; postpaid.

Carrot

Culture—Sow seed as soon as the ground is warm enough in drills one to two feet apart in the garden and two or three feet apart for field varieties. For field planting they may be sown late in May or early in June. Earlier seeding, however, is preferable. Careful, clean cultivation is required, for if young plants are crowded at all with weeds they will be destroyed.

DANVERS HALF LONG—A great favorite for all purposes. One of the best for stock feeding. Very productive on all soils. Roots large and of good quality.

CHANTENAY—A medium early carrot, about six inches long, stump-rooted, deep red or dark orange in color, fine grained and sweet. One of the finest in quality for the table.

EARLY SCARLET HORN—The popular early variety. Roots small, orange-red, smooth and fine grained.

OXHEART OR GUERANDE—A short, thick carrot, very blunt at the apex. Of very good quality for the table and a good yielder.

Any variety— $\frac{1}{2}$ ounce, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 30 cents; pound, 90 cents; postpaid. See "Field Root Crops," page for stock carrots.



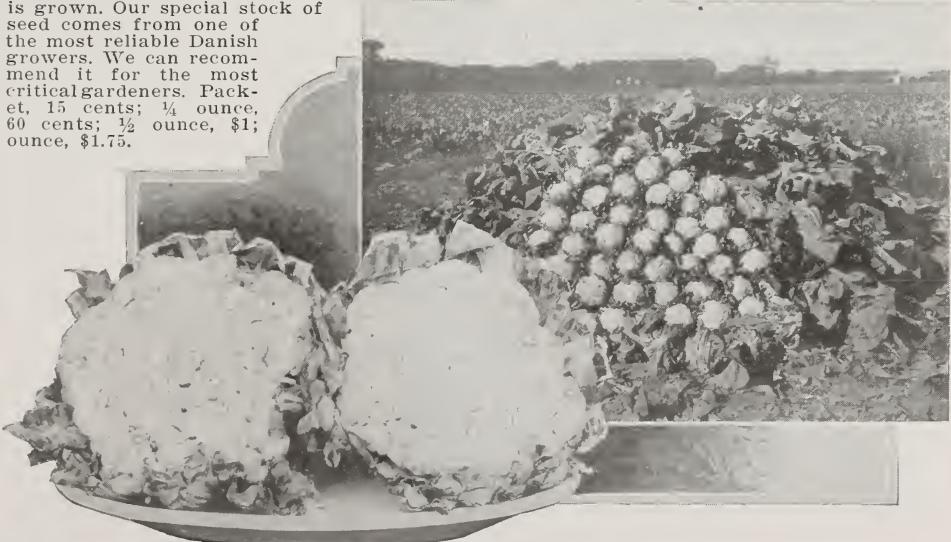
Danvers Half Long Carrots

Cauliflower

The cauliflower is not grown to so large an extent as its value would warrant among our vegetables. There are certain difficulties which present themselves, first of which is that the seed is rather expensive; and, second, it requires good care and attention to produce good heads. The two varieties which we list here are both very early, and with good care will produce good heads in almost any season.

EARLIEST DWARF ERFURT—One of the best and earliest varieties. Plants dwarf and compact, with short stems and small leaves. Packet, 10 cents; $\frac{1}{2}$ ounce, 75 cents; ounce, \$1.25.

DISCO-SNOWBALL—In earliness, reliability in heading, general appearance and size of head this is unequalled. A very popular variety wherever cauliflower is grown. Our special stock of seed comes from one of the most reliable Danish growers. We can recommend it for the most critical gardeners. Packet, 15 cents; $\frac{1}{4}$ ounce, 60 cents; $\frac{1}{2}$ ounce, \$1; ounce, \$1.75.



Disco-Snowball Cauliflower

Sweet Corn

DISCO GOLD MEDAL SWEETCORN—An early variety; only a few days or a week later than Malakoff. The stalks are three and one-half to four feet high and average two ears to each stalk. When ready for use the grains are deep yellow and present a very attractive appearance served on the ear. It is without a rival in sweetness and richness of flavor. For several years the yellow grained varieties of sweetcorn were unpopular because of the prejudice in the minds of some people educated up to the white-kernelled sorts. The yellow sorts have, however, steadily won favor strictly on their quality merit. Once tasted they are never forgotten. The Golden Bantam, which was introduced several years ago, has attained a reputation second to no other early variety. The Disco Gold Medal is an improved strain of Golden Bantam. Every lover of Golden Bantam Sweet Corn will like the Disco Gold Medal. Ounce packet, 5 cents; $\frac{1}{3}$ pint, 10 cents; pint, 25 cents; quart, 40 cents; postpaid. By express or freight—quart, 25 cents; peck, \$1.25.



Disco Gold Medal Sweetcorn

MALAKOFF SWEETCORN—The earliest sweetcorn known. Similar to the well known Peep-o-Day. The ears are very small and are borne in large numbers. Single stalks produce from two to four ears each. Ounce packet, 5 cents; $\frac{1}{3}$ pint, 10 cents; pint, 25 cents; quart, 45 cents; postpaid. By express or freight—quart, 30 cents.

PEEP-O-DAY SWEETCORN

—Similar to the Malakoff in both character of growth and season. This variety of sweetcorn has been very extensively grown throughout the Northwest for several years and has become very popular. Prices same as Malakoff.

EARLY MINNESOTA — The old standard early or second-early variety. Somewhat earlier than Crosby's Early and about a week or ten days later than Malakoff. Quality good; ears eight-rowed, of good size and very regular in form. Desirable for either home use or market. $\frac{1}{3}$ pint, 10 cents; pint, 25 cents; quart, 40 cents; postpaid. By express or freight—quart, 25 cents.

DISCO-EVERGREEN — For years the Evergreen sweetcorn has been the standard late variety for both home use and market. We have in the Disco-Evergreen a specially valuable selection from the Stowell's Evergreen. It is more desirable in every way; more uniform as to type of ear and about a week earlier in ripening; also sweeter and more productive. Having been grown in the Northwest for several years, it is particularly adapted to northwestern conditions. You cannot be disappointed in the type and quality of the Disco-Evergreen. Ounce packet, 5 cents; $\frac{1}{3}$ pint, 10 cents; pint, 25 cents; quart, 40 cents; postpaid. By express or freight—quart, 25 cents; peck, \$1.25.

COUNTRY GENTLEMAN

One of the sweetest late varieties in cultivation. Kernels long, pointed and arranged irregularly on the cob. $\frac{1}{3}$ pint, 10 cents; pint, 25 cents; quart, 40 cents; postpaid. By express or freight—quart, 25 cents.



Disco-Evergreen Sweetcorn

Celery

Culture—Sow the seed in flats or frames and transplant to the open field. The usual method is to set the plants in rows three to four feet apart, but for the garden they are often grown in beds with the plants six to eight inches apart each way. By the latter method an exceedingly rich soil and a large amount of water are necessary to support the large number of plants to a given area. When full grown the plants should be blanched by packing the earth up around them or by using boards.

GOLDEN SELF-BLANCHING—A very popular early variety of dwarf, compact habit. One of the best in quality and comes nearest to being a truly self-blanching variety of any grown. We recommend this for general culture. Our seed is the choicest French grown. Packet, 15 cents; ounce, \$1.10; postpaid.

WHITE PLUME—This is the earliest and one of the most easily blanched varieties grown. Extensively grown for market. Packet, 5 cents; ounce, 20 cents; $\frac{1}{4}$ pound, 50 cents; pound, \$1.40; postpaid.

Cucumber

Culture—Sow in the open ground when danger of frost is past. Plant from six to twenty seeds in a hill and have the hills from four to six feet apart. The greatest pest of the young plant is the striped beetle, which attacks them just as soon as they are out of the ground. In small gardens the most effective way to check the beetles is to cover the hills with mosquito netting held up with wooden frames. In large plantings scatter dust, lime or ashes on the plants while wet with dew or use paris green sprayed on the plants in very weak solution.

IMPROVED EARLY WHITE SPINE—This was the earliest and most productive variety in our trial grounds in 1909. It is without an equal as an all-around early and general crop for home or market. A vigorous grower and prolific cropper. Fruits are remarkably uniform in size, dark green in color and very handsome in appearance. One of the best varieties for slicing and forcing.

IMPROVED LONG GREEN—An old and popular variety, producing large fruits ten to twelve inches in length, slim, but uniform in size; dark green in color. Flesh is solid, crisp and of excellent flavor. Very highly esteemed for garden use.



Several Varieties of Cucumbers

CHICAGO PICKLE—A medium sized variety with prominent spines. A vigorous grower and a prolific producer. Highly esteemed as a pickle variety.

EARLY GREEN CLUSTER—Fruit small; grows in clusters of two or three; very prolific; short, dark green.

Any variety— $\frac{1}{3}$ ounce, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 25 cents; pound, 85 cents; postpaid. By express or freight—pound, 75 cents.

Pop Corn

WHITE RICE—The standard sort for field culture. Our stock is very fine and well selected. Try some on your farm and you will not regret it.

SNOWBALL—Ears egg-shaped, very thick, three to four inches in length. Kernels small, round, white. One of the finest popping varieties. Early and productive.

QUEEN'S GOLDEN—One of the best varieties. Very productive. Pops into large, flaky, white kernels of fine texture and creamy white.

Either variety— $\frac{1}{3}$ pint, 10 cents; pint, 25 cents; by mail, postpaid. By express or freight—quart, 25 cents.



Hanson

Grand Rapids

California Cream Butter

Lettuce

Culture—Seed can be sown almost any season of the year, though early spring is the most desirable time, as a moist atmosphere is required for the best development. Sow the seed thickly in drills from six to twelve inches apart. For early use pick leaves directly from the plants. Later thin the plants in the row or transplant from six to eight inches apart. Grown this way, they will develop heads or bunches which are much better in quality than those grown thickly in the row. Rapidity of growth is necessary to produce tender, edible plants. Plenty of water and rich soil are of the greatest importance.

MAY KING—One of the best varieties for spring planting, forming large, round, solid heads very quickly in cool weather. The leaves are tender and of fine flavor. We know of none better as an early variety.

GRAND RAPIDS—Character of growth similar to the Black Seeded Simpson, from which it was developed by more than fifteen years' selection. To a large extent this variety has replaced the older Black Seeded Simpson. It is often difficult to secure a good germination with the Grand Rapids. In spite of this fact it is the most popular variety we know of today. Every one likes it.

BLACK SEEDED SIMPSON—A crisp, light green bunch lettuce. Leaves broad, very much crumpled, twisted and frilled. Ranks as one of the four most largely planted varieties in the United States.

CALIFORNIA CREAM BUTTER—One of the best summer varieties of head lettuce. Forms round, crisp, solid heads of very fine flavor. In our trials this variety has not been excelled by any other tried, either in productiveness or quality.

PRIZEHEAD—Probably grown to a larger extent than any other variety in the United States, especially in the West. A large, early bunch lettuce, brown in color, crisp, tender and of good flavor. Recommended for spring and early summer planting.

HANSON—A very large, late, cabbage-heading variety; very crisp and firm in texture; quality sweet and good. This is the standard summer head lettuce and succeeds everywhere. Its popularity is attested by the fact that it has been listed by over 200 seedsmen in this country, and ranks as one of the three most largely grown varieties in the United States.

MIXED—A number of standard varieties in mixture.

Any variety—Packet, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 30 cents; pound, 80 cents; postpaid.

EGG PLANT—EARLY DWARF PURPLE—This is the earliest and one of the most productive varieties. The fruits are purple and average eight to ten ounces in weight. About the only variety that is sufficiently early to be grown in the Northwest. Packet, 5 cents; ounce, 50 cents; postpaid.

ENDIVE—WHITE CURLLED—Adapted for early use; does not need blanching; the finest cut and curled, leaves being almost white. Packet, 5 cents; ounce, 15 cents; postpaid.

KALE or BORECOLE—CURLED MOSBACH—A rather dwarf, compact sort with light green foliage. Packet, 5 cents; postpaid.

KOHL-RABI—EARLY WHITE VIENNA—The best sort for table use. Of fine appearance and very early. Packet, 5 cents; ounce, 25 cents; postpaid.

LEEK—LARGE AMERICAN FLAG—The best and most popular variety. A quick, strong grower. Packet, 5 cents.

Muskmelon



Disco Gem Muskmelon

Disco - Gem

A special strain of the well known Rocky Ford or Netted Gem melon. It has been developed by hybridization between two distinct strains and by continued selection for several years. It combines the two characteristics of early maturity and disease resistance which were present in the parent varieties. This strain has a remarkable vigor of growth until it has set and developed a large set of fruit, and then the growth seems to stop; that is, the new shoots, the vines seeming to throw all the force into the development of the fruit. This trait seems to make it desirable in one point, as it has not been so seriously attacked by the melon aphis as the strains that have plenty of young, succulent shoots. This strain has been tested in many parts of the country, where it has been pronounced the best cantaloupe that ever grew. The quality is extra sweet and good. The flesh is green. The form and size are not quite as uniform as in some of the older bred strains. $\frac{1}{3}$ ounce, 10 cents; ounce, 20 cents; $\frac{1}{4}$ pound, 65 cents; pound, \$2; postpaid.

ROCKY FORD—First introduced as Netted Gem, but now more commonly called Rocky Ford, after the place in Colorado made famous by its melons. Fruits small, oblong or oval in shape, well ribbed and very heavily netted, the netting turning to a silver color when ripe. The skin is hard and firm, making it an excellent shipper. Flesh is green in color and of the best quality.

BURRELL'S GEM—Another fine melon from Rocky Ford, Colo., the home of the famous Rocky Ford muskmelon. This variety is unsurpassed in quality and also for shipping. It has reddish orange flesh and small cavity. Melons weigh about two pounds each.

EMERALD GEM—An extra early melon of small size; smooth, emerald green skin and thick, salmon colored flesh. This is the richest flavored melon in cultivation. Valuable for the home garden on account of its earliness and fine quality.

EXTRA EARLY HACKENSACK—The standard very early variety and very popular for both home use and market. The melons are of fair size, nearly round in shape, flattened at stem and blossom ends; heavily ribbed and netted. Flesh green and of good flavor.

EARLY GREEN NUTMEG—Very early; flesh green; very sweet; of good flavor. This was the earliest variety in our trial grounds last year and bore well throughout the season. Valuable for both home use or market.

Any variety, except Disco Gem— $\frac{1}{3}$ ounce, 5 cents; ounce, 10 cents $\frac{1}{4}$ pound, 30 cents; pound, \$1; postpaid.



"Life on the Claims" and Gardens That Are Gardens

Watermelon

COLE'S EARLY—The earliest watermelon in cultivation. Can be grown in all the northern states. Valuable for both home and market use where larger varieties will not mature. A larger acreage of this melon is grown in the Northwest every year than of any other variety.

FORDHOOK EARLY—The earliest large fruited melon. Fruits of good size, green skin and red flesh. A good shipper. Recommended for planting in South Dakota and southern Minnesota.

RED SEEDED RUSSIAN—A medium size early melon of excellent quality. Raised almost exclusively by the Russian colonists in South Dakota and sold by them in the local markets. A very popular variety among those who are acquainted with its desirable qualities.

KLECKLEY'S SWEET—The sweetest of all watermelons. The fruits are very large in size and dark green in color. The flesh is bright scarlet and of a very fine texture. Not early enough for the extreme north, but suitable for the latitude of Mitchell and south of this. Several carloads of these melons are grown near Mitchell every season.

LONG LIGHT ICING—A melon of extremely fine quality and very productive. This is one of the best general crop market varieties. It has been grown extensively in the vicinity of Mitchell for the past few years and has become very popular.

SWEETHEART—Rather late for our vicinity. A fine, large melon. For market and shipping it is among the best and will remain in condition for use longer than most others.

CITRON—Fruit round and smooth. Is not eaten raw. Used for preserves only.

Any variety— $\frac{1}{3}$ ounce, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 20 cents; pound, 60 cents; postpaid.

Okra or Gumbo

Culture—Sow in June in drills two and one-half feet apart. When the plants are up thin to ten inches in the row. The pods should be gathered before they become stringy. If the pods are kept gathered when young the plant will remain in bearing a longer time.

WHITE VELVET—Produces large, round, smooth pods, velvety white in color. Packet, 5 cents; ounce, 10 cents; postpaid.

Parsley

Culture—Sow the seed as early as desirable, either in a cold frame or in the open ground. Soak the seed in warm water a few hours before sowing; have the soil thoroughly pulverized and pat it down lightly around the seed. Thin the plants to four inches in the row and cultivate same as carrots.

MOSS CURLLED—This variety is densely crumpled and curled and has dark green leaves. Packet, 5 cents; ounce, 10 cents; postpaid.

Onion

Culture—No other crop responds to good care as the onion. For very early use the sets give the best returns. These should be planted three or four inches apart in rows one foot apart. For general crop sow the seed as early as the ground can be worked in the spring in drills from one foot to eighteen inches apart. Cultivate early and thoroughly, but do not cover the plants with soil when cultivating. Shallow cultivation is better than deep. A clean soil, plenty of water and thorough surface cultivation are necessary to raise a good crop.

PRIZETAKER—This onion is of immense size, globular in shape, hard and firm. The skin is straw yellow in color and the flesh is fine grained and of excellent flavor. A fairly good keeper, but not equal to the Red Wethersfield, Red Globe or Yellow Globe Danvers in this respect.

MAMMOTH SILVER KING—A large white Italian sort with tender white flesh. It grows quickly and matures rather early. It is one of the most striking onions in appearance and is valuable for marketing in autumn and early winter.



Disco Globe Onions.

LARGE RED GLOBE—By many this is considered the finest red sort. It is perfectly globular in shape and of large size. Skin is dark blood red in color. It is a splendid keeper and the quality is excellent. In western markets this brings the highest price. For general crop, either in the home garden or for market, this variety should occupy the most prominent place.

DISCO GLOBE—A specially selected strain of the Large Red Globe Onion, grown in South Dakota under the most critical supervision. Packet, 10 cents; ounce, 40 cents; $\frac{1}{4}$ pound, 90 cents; pound, \$3.00; postpaid.

LARGE RED WETHERSFIELD—This variety is the popular red onion usually found in all markets. It is medium early and is a very good keeper. It is probably the largest and hardest of the American varieties of onions. It will yield a good crop when many others will fail because of the unfavorable conditions.

YELLOW GLOBE DANVERS—This is the standard yellow globe onion seen in most of our markets. No other varieties seem to be able to displace it and its companion, the Large Red Wethersfield. Both are hardy, good croppers and excellent keepers, and seldom fail to give good returns.

WHITE BARLETTA—A very early white onion, grown for early bunch onions and also for pickles.

SOUTHPORT WHITE GLOBE—A very beautiful white onion. Though not as good a keeper as some of the red and yellow sorts, it is a very popular onion for early market. Packet, 5 cents; ounce, 35 cents; $\frac{1}{4}$ pound, 80 cents; pound, \$2.50; postpaid.

Any variety, except where noted—packet, 5 cents; ounce, 25 cents; $\frac{1}{4}$ pound, 60 cents; pound, \$1.85; postpaid.

Onion Sets

Very desirable for planting to secure very early onions for the table. A quart or two is sufficient for an ordinary sized family.

BOTTOM SETS—Red or yellow sets, per quart, 30 cents; white sets, per quart, 35 cents; postpaid. Write for prices on larger quantities.



Peas



Nott's Excelsior Peas

and are well filled with very large peas of unusually good quality. Wherever this variety has been grown in South Dakota it has given the best of satisfaction, either for the home garden or for market. Height, one to one and one-half feet.

Any variety listed above— $\frac{1}{2}$ pint, 10 cents; pint, 25 cents; quart, 45 cents; postpaid. By express or freight—quart, 30 cents; peck, \$1.75. Prices on larger quantities furnished on application.

Culture—Make an early sowing of one of the early peas like Earliest of All, and follow this very soon after with one of the early wrinkled sorts and one of the general crop sorts. Sow every week or ten days up to the 1st or middle of June. In this way one can have peas through the summer months. Sow in single or double rows eighteen inches to three feet apart. For very early planting place the seeds about one inch deep and have the later plantings from two to four inches deep. Place the seed two to three inches apart in the row. Cultivate thoroughly as soon as the peas are up, and until the vines take up the space.

FIRST AND BEST—This is the earliest and best strain of smooth white peas. Seeds are small, smooth and white. Vines are vigorous, about two and one-half feet high, and bear profusely of medium sized pods, each containing five to seven peas.

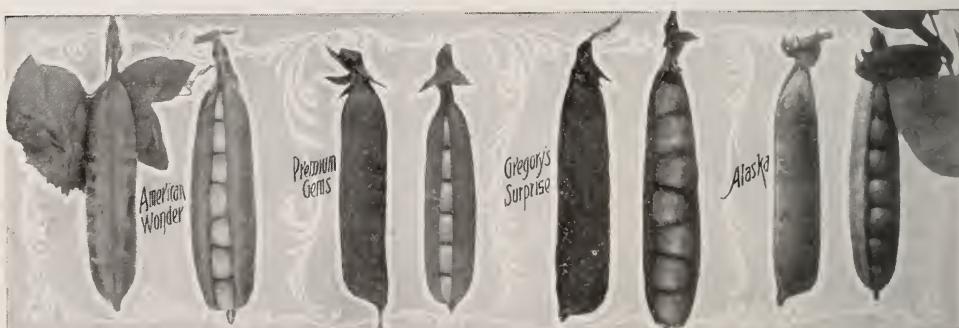
ALASKA OR EARLIEST OF ALL—This is one of the best early peas grown. It is very productive and matures the entire crop almost at one time, so that it can be gathered in two pickings. It is of good quality for a very early pea. Height, two to two and one-half feet.

AMERICAN WONDER—An early, wrinkled pea of finest quality. The vines are extremely dwarf in growth, varying from ten inches to two feet in height, depending upon the soil in which they are grown. It is one of the earliest dwarf wrinkled peas and follows closely upon the Earliest of All.

SURPRISE—One of the earliest of all wrinkled peas. Pods are not so large as the American Wonder, but more numerous. This is not so well known as the older American Wonder, but is rapidly taking the place of the older variety. Height one and one-half to two feet.

PREMIUM GEM—A very dwarf wrinkled pea. An old variety, but still in great demand. Nearly as early as American Wonder. Grown in nearly every private garden in the West. Height, one to one and one-half feet.

NOTT'S EXCELSIOR—Of the dwarf early wrinkled peas there is none better for general culture in the Northwest than Nott's Excelsior. Pods average three inches in length and are well filled with very large peas of unusually good quality. Wherever this variety has been grown in South Dakota it has given the best of satisfaction, either for the home garden or for market. Height, one to one and one-half feet.



Parsnip

Culture—Sow the seed as early in the spring as the ground can be worked, in drills twelve to eighteen inches apart. Have the ground thoroughly prepared by deep plowing and good cultivation before sowing the seed. The plants are somewhat slow in starting from seed, but when once started they are comparatively easy to care for and well repay the labor expended in growing them. The roots may be dug from the field in the fall or early spring.

IMPROVED GUERNSEY—A heavy cropper; flesh fine grained and of good quality. Roots are not so long as the Hollow Crown, but thicker and more easily gathered.

HOLLOW CROWN—This is the standard market gardener's strain. It is very sweet and of good flavor.

Either variety— $\frac{1}{3}$ ounce, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 20 cents; pound, 60 cents; postpaid.

Pepper

BULL NOSE—A prolific, rather early variety, bearing large scarlet fruits. Earlier than the Ruby King.

CHILI—Very productive; fruits very small, very red and very hot.

RUBY KING—The most popular large red pepper. Plants grow two feet high and produce a crop of handsome, large scarlet fruits. Flesh sweet, tender and mild.

GOLDEN DAWN—A beautiful yellow pepper, resembling the Bull Nose in shape, but golden yellow in color.

Any variety—Packet, 5 cents; ounce, 30 cents; postpaid.

Pumpkin

Among the varieties of pumpkin that are grown, the Connecticut Field is probably the most desirable one for field planting in our latitude. As pie pumpkins we especially recommend the Japanese and the Small Sugar as the two that have especially demonstrated their value as to productiveness, early maturity and quality.

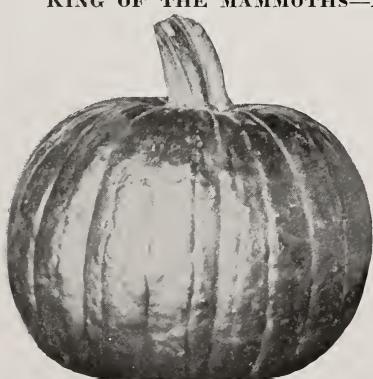
Culture—Same as for cucumber. The hills should be eight or more feet apart. Field varieties are commonly grown in corn-fields by sowing seeds in every third or fourth hill.

CONNECTICUT FIELD—This is the earliest field pumpkin. Immensely productive and commonly grown in corn-fields for stock feeding. Also good for pies. Ounce, 5 cents; $\frac{1}{4}$ pound, 15 cents; pound, 50 cents; postpaid. By express or freight—pound, 40 cents; 10 pounds or over at 35 cents per pound.

KING OF THE MAMMOTHS—A pumpkin of immense size. Matures rather late for the extreme north. Flesh is thick, bright yellow, fine grained and excellent for pies. $\frac{1}{4}$ ounce, 5 cents; ounce, 20 cents; $\frac{1}{4}$ pound, 50 cents; pound, \$1.25; postpaid.

JAPANESE PIE—This variety is both curious and useful. The skin is deep green, with dark stripes which turn to golden yellow. Seeds are peculiarly marked. The seed cavity is small and the neck is solid flesh. Matures early and is of the finest quality. We know of no better pie pumpkin. $\frac{1}{2}$ ounce, 5 cents; ounce, 15 cents; $\frac{1}{4}$ pound, 30 cents; pound, 75 cents; postpaid.

SMALL SUGAR—The standard pie pumpkin, resembling the field variety in color and shape, but of very much smaller size, averaging from eight to twelve inches in diameter. Is as fine grained as average squash and of excellent flavor. $\frac{1}{2}$ ounce, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 20 cents; pound, 60 cents; postpaid.



Small Sugar Pumpkin



Connecticut Field Pumpkin



Radish

For extremely early growing the small globe or olive-shaped varieties and the Icicle are the best. For later spring and early summer some of the long rooted varieties give better results for the ground occupied. The Icicle and Rosy Gem are the most popular very early sorts for both forcing and early planting in the open ground.

Culture—Sow as soon as the ground can be worked in the spring, in rows eight to ten inches apart. Sow at intervals of a week or ten days for a succession up to the middle of June.

SCARLET GLOBE—A very popular, extremely early, globe-shaped radish, maturing in about twenty-five days. Very desirable for early sowing in open ground or for forcing.

ROSY GEM—A handsome, globe-shaped variety of rosy scarlet, shading to white at the tip. The beautiful red roots with the pure white tips present a very attractive appearance, either on the table or as offered for sale on the market.

FRENCH BREAKFAST—One of the standard early radishes. Roots of oblong shape, red above, changing to clear white in the lower portions.

WHITE ICICLE—This is becoming one of the most popular radishes grown. Its earliness, attractive appearance and excellent quality make it one of the most valuable of all radishes. It remains in fine condition longer than any other first early. It is not only the best early variety, but is one of the best general crop varieties as well. In our trial grounds this year our stock of Icicle was ahead of all other varieties tested.

CHARTIER—The largest and handsomest summer sort. The roots are long, crimson, tipped with white. The hardiest sort for summer culture.

SCARLET CHINA WINTER RADISH—The standard winter variety.

Any variety— $\frac{1}{3}$ ounce, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 25 cents; pound, 65 cents; postpaid.



White Icicle Radish

Rhubarb or Pie Plant

Culture—Sow the seed in rows a foot apart in May. When the plants are well up thin to six inches in the row. Cultivate thoroughly. The following spring transplant to rows five feet apart, with plants three feet apart in the row.

MAMMOTH—This variety is vigorous and productive. Stalks twelve to fifteen inches long, one inch or more thick. An excellent sort for pies or sauce. Packet, 5 cents; ounce, 10 cents; postpaid.

Salsify or Vegetable Oyster

Culture—Sow as early as the ground can be worked, in drills twelve inches to two feet apart. Later thin to five inches in the row. Cultivate thoroughly. Roots that are to be used in the winter should be stored in a cool cellar. Those desired for spring use should be left in the ground over winter and dug as soon as frost is out.

MAMMOTH SANDWICH ISLAND—Roots large and of superior quality. Delicate in flavor; double the size of the old variety. Packet, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 30 cents; pound, 90 cents; postpaid.

Spinach

Culture—Sow in the early spring, in drills a foot apart; thin out freely for use. It should be used in the spring and early summer, for it becomes tough later. It can also be easily grown in the early fall.

LONG STANDING—Leaves large and thick; dark green in color. Remains in edible condition longer than any other sorts. Best for spring growing. Packet, 5 cents; $\frac{1}{4}$ pound, 15 cents; pound, 45 cents; postpaid.

Squash



Disco-Hubbard

Disco-Hubbard

Our special strain of this well known variety is the best that can be obtained anywhere. The seed is produced by one of our best growers. By careful selection he is able to maintain a much higher standard of purity and productiveness than can be obtained from ordinary stock.

GOLDEN HUBBARD—This variety is similar to the Hubbard, but has a skin of bright red color. It is somewhat smaller and earlier than the common Hubbard, but is equally as productive and fine in quality.

DELICIOUS—No squash excels this in firmness and compactness of grain, dryness, sweetness and richness of flavor. An excellent winter squash for general culture.

MAMMOTH CHILI—The Mammoth Chili is the largest variety of squash grown. If you wish to take the premium at your state or county fair on the largest squash, try this.

MAMMOTH WHITE BUSH—A large strain of the Early White Bush summer squash. Nearly as early as the smaller strains and about twice the size.

YELLOW SUMMER CROOKNECK—A true bush in habit of growth. Very early and productive.

Any variety listed above— $\frac{1}{3}$ ounce, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 30 cents; pound, 90 cents; postpaid.

Turnip

Both the English and the Swede turnip or rutabaga are desirable garden crops, and the latter is also desirable for stock feeding. One feature about turnips is that they can be sown very late in the season and can follow some of the earlier crops in gardens where space is a consideration.

EXTRA EARLY PURPLE TOP MILAN—The earliest English turnip in cultivation. Roots flat, white; purple top. $\frac{1}{2}$ ounce, 10 cents; ounce, 15 cents; $\frac{1}{4}$ pound, 30 cents; pound, 80 cents; postpaid.

PURPLE TOP STRAP LEAF—The popular fall flat sort. More largely grown than any other variety.

PURPLE TOP WHITE GLOBE—Globe shaped, smooth, white. A good keeper.

GOLDEN GLOBE RUTABAGA—Very similar to the Purple Top Yellow, except in the color of the crown, which is green instead of purple. An excellent variety and a good yielder.

PURPLE TOP YELLOW RUTABAGA—A hardy and productive variety. A good strain.

Any variety, except the Early Milan— $\frac{1}{3}$ ounce, 5 cents; ounce, 10 cents; $\frac{1}{4}$ pound, 20 cents; pound, 60 cents; postpaid.

For field varieties, see "Field Root Crops," page 10.



Disco - Thornber Tomato

No one variety of vegetable introduced by us has given more general satisfaction than the Thornber tomato. It has been grown by Mr. A. E. Thornber of Brookings County, S. D., for twelve years. He has continually selected it for uniformity in shape and for large size, and at the same time has looked to the point of earliness, so that it today ranks as the earliest large fruited variety we know of. The plants grow very large and spread on the ground. The foliage is plentiful and medium light in color. The fruits are large, red, solid and smooth. Many of them weigh from three-quarters to one and one-half pounds each and there are very few seeds. Wherever it has been tried it has given perfect satisfaction, so we feel entirely justified in placing back of it our unqualified recommendation. Sold only in sealed packets of about 300 seeds at 15 cents per packet.

Yakima. The earliest of all tomatoes. In shape and size the Yakima is not equal to the Thornber, but it is very much better in this respect than any other early tomato. A peculiarity of the plant is that it spreads in such a way as to expose the fruit to the sun so that it ripens very quickly and evenly. The foliage is not so rank as on some other varieties. Packet, 10 cents; $\frac{1}{2}$ ounce, 60 cents; ounce, \$1.00.

Field's Early June. Similar to the Disco-Thornber. The introducer of this tomato says: "A new early tomato, earlier than Earliana, large and smooth as Stone, and solid as Ponderosa." In our trials this has proved one of our best. Packet, 10 cents; $\frac{1}{2}$ ounce, 60 cents; ounce, \$1.00.

Earliana. The earliest smooth, bright red tomato among the standard varieties. Fruits average about three inches in diameter and are somewhat flattened. Packet, 5 cents; $\frac{1}{2}$ ounce, 20 cents; ounce, 30 cents.

Chalk's Early Jewel. This is considered as the best early red tomato among the standard varieties. A very prominent seedsman who is particularly familiar with tomatoes, when visiting our grower last season, made the statement that if there would be but one tomato grown, he would suggest it be the Chalk's Jewel. Our seed is extra fine. Packet, 5 cents; $\frac{1}{2}$ ounce, 25 cents; ounce, 40 cents.

Improved Acme. The best general crop purple tomato. Our stock has been selected for earliness and smoothness by our grower for many years and is the best that can be secured anywhere. Ripens very soon after Chalk's Jewel. Packet, 5 cents; $\frac{1}{2}$ ounce, 25 cents; ounce, 40 cents.

Dwarf Champion. A very distinct medium early tomato. Plants are dwarf, having stiff, bushy stem and thick, deep green leaves. Very different from the common varieties. Packet, 5 cents; $\frac{1}{2}$ ounce, 20 cents; ounce, 30 cents.

Ponderosa. Largest fruited variety in cultivation. Fruits are deep purple in color and have small seed cavities containing very few seeds. We have grown fruits to weigh over two pounds. Packet, 5 cents; $\frac{1}{2}$ ounce 25 cents; ounce, 40 cents.

Golden Queen. A very good, large, smooth, yellow tomato of mild flavor. Packet, 5 cents.

Yellow Pear. Fruits are small, yellow, pear-shaped. Very productive. Packet, 5 cents.

Ground Cherry. A husk tomato. An old standard garden fruit greatly valued for preserves. When ripe it is one-half an inch in diameter and very sweet. Excellent to eat out of hand. Packet, 5 cents; $\frac{1}{2}$ ounce, 30 cents; ounce, 50 cents.



PRICES
75c—50c—25c

Five-prong Hoe, four-foot handle; weight, 3 pounds. Price..... 75c
Three-prong Hoe, four-foot handle; weight, 2 pounds. Price..... 50c
Three-prong Midget Weeder, nine-inch handle; weight, 12 oz. Price. 25c

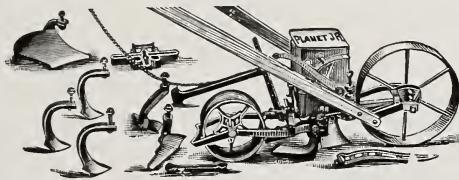
By express or freight, charges paid by receiver.



The new "Planet Jr." catalog is the handsomest, best and most instructive book ever issued on a similar subject. Full of little points that bring profit. Full of true and handsome illustrations. We mail it free to any address on application. The No. 4 combination tool listed here is only one of many described in catalog.



No. 4 "Planet Jr." Combined Hill and Drill Seeder, Wheel Hoe, Cultivator and Plow



This tool combines in a single convenient implement a capital hill-dropping seeder, a continuous row seeder, an admirable single wheel hoe, an excellent furrower, a capital wheel cultivator and a rapid and efficient wheel garden plow. Weight, 53 pounds. Price, complete... \$10.50
As a seeder only; holds 2½ quarts of seed..... 8.50

Columbia Planter



This point appeals particularly to the small gardener. The best model for the general gardener is the No. 3 machine which we offer F. O. B. Mitchell, S. D., at \$11.75, or F. O. B. Springfield, Ohio, at \$10.75.

The Columbia Planter is a machine that will sow accurately any kind of seed both small and large, and in about any quantity a person would desire. There is a little book published that goes with this machine telling about this machine and the seeds that can be sown. This will be furnished to anybody upon inquiry. One great advantage of this machine over all other makes is that it will sow a single package of most seeds as well as a pound-lot.

The "Perfection" Sprayer The Strongest and Most Powerful Sprayer Made

This is a sprayer of the high pressure type. Capacity, four gallons; weight, nine and one-half pounds; tested to sixty pounds before leaving factory. Built of galvanized steel or all brass, as ordered.

This sprayer will handle whitewash, water, paints, Bordeaux mixtures, etc., perfectly. For whitewash and all heavy mixtures, use the extra nozzle cap which comes with the sprayer. By using a nozzle extension trees can be sprayed and high rooms whitewashed. These extensions come in two eighteen inch pieces; one or both may be used.

Perfection Sprayer, galvanized, with single nozzle. \$5.00
Perfection Sprayer, galvanized, with double nozzle. 6.50
Perfection Sprayer, brass, with single nozzle.... 6.75
Perfection Sprayer, brass, with double nozzle.... 8.25
Extras—Tree nozzle, \$1.50; No. 4 Bordeaux nozzle, 75c.

Send for catalogs of Garden Tools and Implements of all kinds. Tell us what you want and we will get it for you.

"Norcross" Garden Cultivator, Hoes and Weeders

Close hand cultivation is best, and Norcross Cultivator Hoes and Weeders are like a human hand, the fingers of which work closely around the delicate plants without injuring them, stirring the soil to any depth and leaving it level and loose, without a footprint upon it.

Five-prong Hoe, four-foot handle; weight, 3 pounds. Price..... 75c
Three-prong Hoe, four-foot handle; weight, 2 pounds. Price..... 50c
Three-prong Midget Weeder, nine-inch handle; weight, 12 oz. Price. 25c

BLATCHFORD'S CALF MEAL

THE PERFECT MILK SUBSTITUTE

Will raise three calves at the cost of one where whole milk is used. The most profitable feed on the market for the farmer.

100 Pounds Makes 100 Gallons of Rich, Nutritious Gruel

The time is past when calves can be raised at a profit on whole milk. Today the milk is worth far more for other purposes; the cities are calling for it; creameries, cheese factories and condenseries cannot get enough, and all of them paying good prices.

**Sell Your Milk and Raise or Veal Your Calves on
Blatchford's Calf Meal at 1-3 the Cost**

This meal is a result of over 100 years' experience in feeding calves, and over 2,000 tons were fed in New York state alone last season, indicating the quality and general satisfaction it is giving. Testimonials from all over the world. Make your calves show you a good profit this winter and spring.

PRICES, F. O. B. MITCHELL, S. D.:

100 lb. bag, \$3.50

50 lb. bag, \$2.00

25 lb. bag, \$1.00

On 500 pound shipments freight will be prepaid to any point east of the Missouri River in South Dakota, Minnesota, Wisconsin, Iowa and Illinois.

FOR SALE BY

Dakota Improved Seed Co., State Agents for So. Dak.

Poultry Feeds and Supplies

We are headquarters for poultry supplies of all kinds. We haven't space here to give descriptions and prices of our full line but would request that you write for prices, telling just what you want, and we will give you quotations and will send descriptive circulars and catalogs wherever possible.

B-B Laying Ration. A perfectly balanced ration for dry hopper feeding of laying hens. 50 lb. bag, \$1.25; 100 lb. bag, \$2.25, F. O. B. Mitchell, S. D.

B-B Chick Ration. A well balanced, scientifically prepared food for dry hopper feeding of young chicks from 3 days to 12 weeks old. 50 lb. bag, \$1.35; 100 lb. bag, \$2.50, F. O. B. Mitchell, S. D.

Buckeye Incubators and Brooders. Complete catalog will be sent on request. Incubators from \$10.00 up and Brooders from \$2.00 up.

Disco Disinfectant. A perfect disinfectant for all purposes about stable and poultry yard. Absolutely not poisonous, disinfects, cleanses, purifies, sterilizes, heals, kills lice and mites on all domestic animals. Quart can, 40 cents; $\frac{1}{2}$ gal. can, 75 cents; 1 gal. can, \$1.25; 5 gal. can, \$5.50. One gallon makes 100 gallons disinfectant.

Disco Lice Powder. There is no humbug about this. It is a real lice powder that kills the lice. Pound package, 25 cents; postpaid, 35 cents; 5 packages for \$1.00 by express or freight.

All-Rite Sanitary Fountain and Feeder. For use with mason jars. 15 cents each, 2 for 25 cents; postage 7 cents each extra.

Cone-Top Drinking Fountain. One of the simplest and most satisfactory fountains on the market. Prices, by freight or express. 1-quart size, each, 20 cents; half dozen, \$1; dozen, \$1.85; 2-quart size, each, 25 cents;

half dozen, \$1.35; dozen, \$2.50; 3-quart size, each, 30 cents; half dozen, \$1.60; dozen, \$3.00.

Sanitary Metal Brood Coops. These brood coops are made of galvanized steel, constructed in a knock-down form, are easily taken apart or cleaned. No. 1 Coop, $17\frac{1}{2} \times 23$ inches on the ground, 16 inches high in front and 12 inches in the back, each, \$1.75; No. 3 Coop, $23\frac{1}{2} \times 29$ inches on the ground, same height as No. 1, each, \$2.50.

Grit and Shell Box. This box has three compartments. By freight or express; each, 50 cents; half dozen, \$2.75; dozen, \$4.90.

Dry Food Hopper. This hopper is specially adapted to feeding our B-B Laying Ration. The hopper is similar in shape to the grit and shell box, but is larger, holding about 7 quarts. It has two compartments, one small and one large. By freight or express; each, 75 cents; half dozen, \$4.

Double Clinch Leg Bands. The only safe way to know your flock is to use numbered leg bands and keep a record of each individual. Prices, postpaid: 12 for 15 cents; 25 for 25 cents; 50 for 40 cents; 100 for 65 cents.

H. and D. Fancy Egg Box. Prices, 15-egg size, each, 15 cents; 6 for 70 cents; dozen, \$1.25; 30-egg size, each 20 cents; 6 for \$1; dozen, \$1.75; 50-egg size, each, 30 cents; 6 for \$1.25; dozen, \$2.25.

Lice Killer Nest Eggs. A boon to the poultry raiser as well as to the lice-infected fowls. Keeps lice out of nests and off from hens. Price, 5 cents each; postpaid, 10 cents each. By express or freight, 50 cents per dozen.

Sulphur Fumigating Candles. Easy to light, easy to extinguish and safe to use, and very effective as a disinfectant. Price, 10 cents each; by mail, postpaid, 15 cents.

Our Method of Handling Seed Corn

How and Where Our Seed Corn is Grown

Our corn is all grown under conditions that are right to produce that particular kind of corn. In order to produce the highest quality of seed that will give the greatest returns possible of the best corn, we study each variety carefully and handle it in such manner as to produce the results desired. For example, corn for North Dakota is secured from the best breeders and growers in the region for which we are growing the corn and is grown for us one hundred miles or more south of the locality where the corn is bred, so that it will fully mature before any possibility of freezing. **We have fully demonstrated that corn so matured has a much higher vitality than corn which takes the whole season up to the last day of grace in order to ripen.** Every year we go back to the same breeders and secure carefully bred stock from which to grow the corn that we ship out. To be sure, this is growing corn south of where we expect to sell it. It must be held in mind, though, that **this corn is being bred under the northern conditions**, and that the growing of the stock south for one year will make no apparent difference in the season when the corn is taken back to its home locality. The extra vitality secured in having the corn fully ripen at the season of the year when it should ripen more than offsets any possible objection to having the stock grown south for one year.

We follow this practice particularly with corn for the extreme north, for it is impossible to secure varieties that will ripen there so as to produce satisfactory seed corn every year. In fact, North Dakota produces but a small portion of the seed corn that is used. If it could be depended upon to do this satisfactorily every year we would say that the seed corn grown there, properly matured and carefully handled by the best methods, would be our first choice.

Our Method Assures Best Results

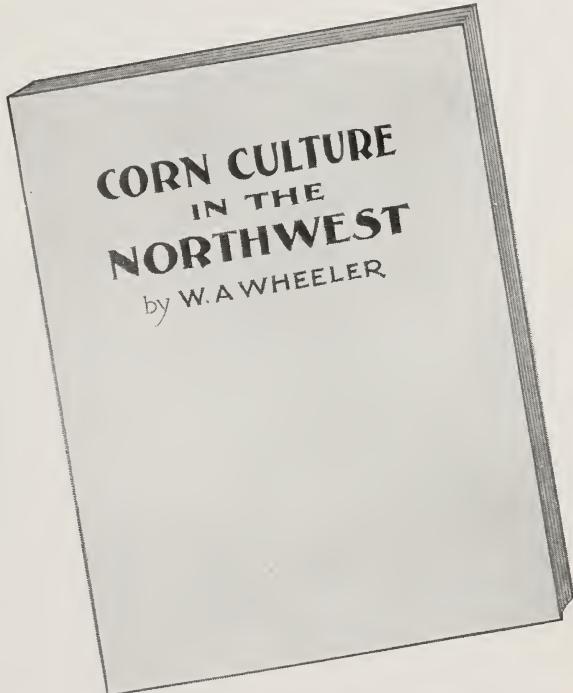
Under the existing conditions, our method comes the nearest to the ideal for northern seed corn. We have consulted the agronomists of the experiment stations of Minnesota, North and South Dakota on this proposition and have their approval of the method.

On stocks of corn for southern South Dakota, southern Minnesota, northern Iowa and northern Nebraska we do not find it so necessary to grow the corn south of its home locality, for we recommend the earlier varieties that mature by the 10th to the 15th of September. Even here, however, we try to maintain the earliness of all our stocks by having them bred in the northern part of the region to which they are adapted, and grow our stocks of seed a little south of this locality.

Careful Selection of Seed Corn

Most of our corn is selected first at the time of husking. This

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.



CORN CULTURE IN THE NORTHWEST
A Valuable Book for Every Corn Grower
By W. A. WHEELER

We have published this book, believing that corn growers would be interested in learning more about our several years of experimenting and careful selection of varieties of corn that are best adapted to the varying conditions that exist in different localities.

What we have to say in this book is right to the point and does not contain a lot of generalities that must be waded through in order to get to the real meat of the subject. On the other hand, a careful study of the contents of this book will save farmers a lot of unnecessary, expensive experimenting, worry and poor crops.

A copy of this book will be sent free of charge with every order of seed corn placed with us this season, but we want every buyer of seed corn to have a copy of this book, and have arranged to send copies to any one sending us the names and addresses of five other farmers interested in seed corn. Just send us your name and address, plainly written, together with five others, and we will see that a copy is sent to you immediately, postage prepaid.



first selection usually includes from one-fifth to one-third of the output, depending upon the variety and the conditions of growing. If the variety contains more moisture than would be contained in good, air-dry corn it is handled in the best manner possible to remove the surplus moisture and put it in good seed condition. When it is prepared for shipment or for the sheller, it is all gone over again and all ears which appear to be shrunken or in any other ways show signs of poor quality or vitality are culled out. Corn that is bred in the North and grown south is usually so dry at the time of husking that it shells quite a percentage from the ear in handling. Such corn is not racked, but is carefully stored in ventilated bins in a dryhouse built specially for the storing and curing of seed corn. This is given a second selection at the time it is prepared for shipment. Most of our corn is, therefore, selected on the ear at least twice, and much of it three times, before it is shelled or shipped.

Testing

All lots of corn that come into our warehouse are tested for germination when they come in. We also make tests on all lots during the time the corn is in store so that we know at any time just what the vitality of each stock is. In ordinary seasons seed corn is not considered as satisfactory to be shipped unless it shows a strong germination of over 90 per cent. Most of our stocks show tests of from 95 per cent to 100 per cent. Every season we discard stocks of corn which show a germination below our standard. This corn may have been carefully selected and placed on racks in our warehouses, but still show a very low germination. In such cases we simply discard the stock and sell it for feeding purposes.

Shipping Ear Corn

Various methods have been devised for the shipping of seed corn on the ear, and nearly all of them have serious objections. Sacks, crates and barrels have been used, but are all open to criticism. We are using the tight, wire-bound box for the shipment of most of our ear corn and we think we have something better than anything that has been used heretofore. A tight box prevents to a large extent the shelling of the corn in shipment, and what does shell is held in the box. Neither can corn in a box of this kind be meddled with. Altogether, we are very well pleased with this method of shipping ear corn. At times, on special stocks of corn, we find it necessary to ship ear corn in crates or bags, but we plan to ship in wire-bound boxes whenever it is possible to do so.



Box of Ear Corn Packed for Shipment

Shelling and Grading

All corn that is put out as shelled corn by us is carefully graded by the best grading machinery, thus removing practically all of the kernels that are off in size or shape. Grading removes from 20 per cent to 40 per cent of the shelled corn, depending upon the variety and condition of the stock. This process prepares the corn for the planter box. When graded corn is purchased there is not the shrinkage and waste that are obtained with corn purchased on the ear. We recognize the fact that it is recommended by many experiment stations and agricultural papers that all corn should be purchased on the ear. Where seed is to be used for breeding plots or where the buyer questions the selection of the corn which is made, this is the best manner to procure it. For general planting we recommend shelled and graded seed in preference to seed on the ear, because it has many advantages over corn on the ear.

Right here let us say that the grading of early varieties of corn is often a difficult proposition. The kernel found in early varieties is usually rather short and somewhat rounded, instead of long, wedge-shaped and flat, as found in the later southern types. For this reason it is practically impossible to do more than grade for size by removing the smaller tip kernels and the larger butt kernels.

In planting seed corn of the earlier varieties the round hole plate planters are usually more successful than the edge drop planters.

Have you read about Disco Registered Alfalfas? They are the best kind of crop insurance you can have.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.

Corn for the North

Improved Varieties Mean Greater Production

We have heard people say that North Dakota would some day produce more corn per acre, and better corn, than Iowa or Illinois. We hardly believe so strong a statement as this, but we do know that North Dakota and other northern regions are increasing their corn acreage and yield every year and that some of the more southern localities will have to look to their laurels in corn production. The one thing that is bringing about this greater production of corn in the north is the introduction of earlier and hardier varieties of high yield and good quality. We are laboring tooth and nail to secure the right corn for the north and know that our efforts are being rewarded. In our Brown County Yellow Dent we know that we have something that will produce a crop of corn under conditions where other varieties fail. We are not bragging on its purity of type and not putting it up against Reid's Yellow Dent for blue ribbons, but we are putting our highest recommendation back of it for the Northwestern states where "corn raising" is always followed with a question mark.

Performance Record the Basis of Selection

All the corn we offer deserves the name of corn. We are not taking those varieties which are not productive and which are merely grown under the name of corn, but are working for those varieties that will produce good corn and enough of it to pay the farmer for growing it. We have not, however, worked for the large eared varieties, for we have found by good, hard experience in the north that the smaller eared varieties are far safer and much more productive than those with larger ears.

Best Results from Northern Bred Seed

Just a word as to our method of handling the northern seed corn proposition. Our early corn is practically all grown in the vicinity of Mitchell, but is all grown from seed that is bred and selected under the northern conditions for which we are growing our corn. We know that seed corn bred and developed in the extreme north, but grown for one year south of this latitude to produce a high quality and high germination, is better for northern planting than seed corn grown in the extreme north and only partly matured. The extra vitality and growth secured by our method more than offsets any possible lengthening of season that might be obtained in the one year this corn is grown away from home. We secure the seed from which we grow our stock from the north every year and do not continue to select it at our latitude. Results that are being obtained with this kind of corn serve to show that our position in this matter is right. It has the approval of all the agronomists of the northern states with whom we have consulted regarding it.

Corn Crop Better than Summer Fallow

Corn is grown in the north for other reasons than the mere production of a crop of corn. A corn crop takes the place of a summer fallow, and is a far better business proposition. If the crop of corn alone is a financial success it is clear gain, because the benefits derived from the cultivated corn crop preceding a small grain crop will pay for the growing of the corn. Many are still making the mistake of trying to grow the large eared, beautiful varieties that come from the south. They would far better grow one or more of our very early sorts that have been tried out and which we know will produce corn and good corn, if anything will.

Can You Afford Poor Seed Corn?

Seed corn at \$1 per bushel costs from 12 to 17 cents per acre.

Seed corn at \$3 per bushel costs from 35 to 50 cents per acre.

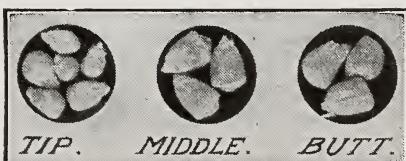
A bushel of seed which increases the yield five bushels per acre at 30 cents per bushel is worth \$9.

Seed corn which costs \$3 per bushel must produce, in order to pay for itself, one bushel more of corn per acre than seed corn that costs \$1 per bushel.

The loss on a bushel of seed corn which gives a 50 per cent stand is from \$10 to \$15 spent as rent of land not producing anything, and time spent in plowing and cultivating land without a crop.

"There is more money in alfalfa and corn for live stock than in any other single crop or combination of crops in the world."—W. A. Wheeler.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.



This cut shows kernels of corn in the plates of a corn planter. This shows very plainly that one cannot secure an even stand of corn by planting a mixture of tip, middle and butt kernels. The only way to avoid this is to plant graded seed corn. The extra yield secured will pay 500 per cent on the extra cost of well graded seed.

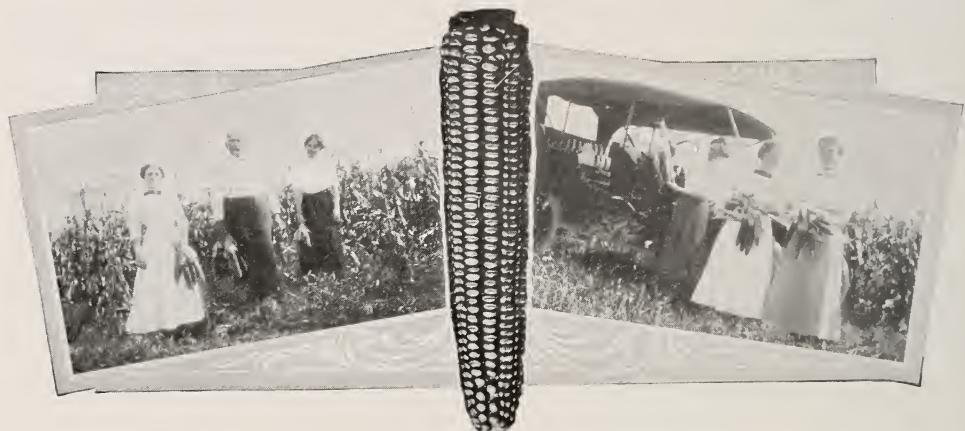
Northwestern Dent Corn

In North Dakota this corn is grown perhaps more largely than any other one variety. It is extremely early and hardy in North Dakota and northern South Dakota. No other variety seems to have given the uniformly satisfactory returns in North Dakota that are given by the Northwestern Dent.

The ears are of fair size, rather long and slender. The type of ear is intermediate between a flint and a dent corn. They are usually from seven to nine inches long and have from ten to fourteen rows of kernels.

The kernel is red with a yellowish cap, but there is a great variation in the colors of the kernels as well as in the type. The true type should have a slight dent, but the ears show a great variation in this respect.

This corn is too popular throughout the Northwest to need any further recommendation from us. It is the standard early corn in North Dakota and will probably retain its popularity for years to come.



Vice-president Morrow Inspecting Fields of Northwestern Dent Corn

Minnesota No. 23

An early strain of the standard White-Capped Yellow Dent. Originated on a farm in northwestern Minnesota and introduced by the Minnesota Experiment Station after several years' trial. Recommended by that station as probably the best extremely early variety for northern Minnesota. Records of over seventy-five bushels per acre have been secured in Minnesota, northwest of the Twin Cities, but from forty to fifty bushels of dry cured corn would be considered a good average yield.

Minnesota No. 23 is being grown quite extensively in North Dakota, and is "making good." We can also recommend it for northern South Dakota, Montana or any locality that requires the very earliest corn that can be grown.

MINNESOTA KING—A variety of early corn that is popular in some districts, but is not largely grown. In type this resembles both the dent and the flint varieties. The ears have eight rows of very broad, flat kernels, often much broader than long. The dent is shallow; color is light yellow. Season usually about the same as Minnesota No. 13, or possibly earlier.

RUSTLER WHITE DENT—A standard variety of corn in the northern states. Very well liked by some growers. Ears of fair size, kernels rather shallow, season from 90 to 95 days. Very productive. We do not plan to keep this on hand at all times, for our Disco 85 and 90 Day White more than take its place for the region to which this is adapted.

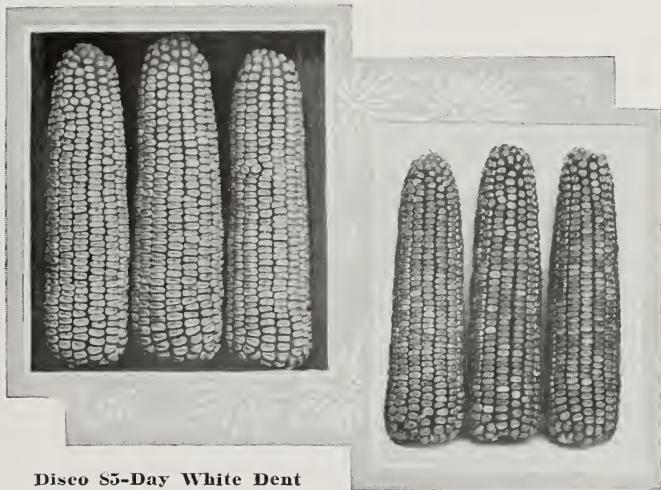
Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.

Disco -Pride Corn

An Improved Strain of Brown County Yellow Dent

In 1906 we first ran across a variety of corn in Brown County which had made a good record for yield and earliness. It has been grown there and has matured satisfactorily every year for the past eighteen or twenty years. It has been tested at the Highmore Experiment Station, where it yielded between forty-five and fifty bushels per acre. In 1907, at the same experiment station, this corn outyielded all other varieties and showed a drouth resistance second to none. In fact, there was no corn at the Highmore station in 1907 that was nearly equal to this in resisting dry weather. In type it resembles the Pride of the North and North Dakota Golden Dent.

The original stock of Brown County Yellow Dent as we secured it in 1906 had not been selected for uniformity of type or color. The improved strain which we offer as Disco Pride shows a great improvement over the original. It retains the extreme earliness of the original strain, but has a better type of ear. There is still some variation in color and shape of kernel, but this does not injure it in any way when it comes to producing



Disco S5-Day White Dent

Disco Pride Corn

a good yield of corn under adverse circumstances. We believe that the Disco Pride corn planted in the northern part of South Dakota, North Dakota or Montana is as safe a proposition as anything in the way of corn that can be secured. Corn-growing in Montana is just in its infancy. We have been furnishing this variety of corn to our Montana customers for several years and have the most favorable reports from it. In fact, we are now having much of our stock-seed of Disco Pride grown there and can furnish our Montana customers with seed of this variety grown from Montana bred and grown stock-seed. The name "Disco Pride" implies the probable origin of this corn as an acclimated strain of Pride of the North. The Early Pride which has been offered by the Dakota Improved Seed Company for several years is a few days later than Disco Pride.

They Like Our Disco-Pride or Improved Brown County Yellow Dent

Brown County Yellow Dent corn is a good corn for this part of South Dakota. I like your manner of doing business and believe you are on the right track for success.

J. A. HALK, New Underwood, S. D.

Your seeds have always been the best I could get anywhere and the seed corn has been fine. Your Brown County Yellow Dent is, I think, the best corn I have tried for the Black Hills country.

E. D. SMITH, Piedmont, S. D.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.



Source of Seed Corn

In many of the extreme northern localities that are entering upon corn production, the problem of seed corn is always a serious one. Corn can be profitably grown in these localities, but it is often very difficult to secure seed corn that is well matured and has a sufficiently high vitality to produce a good yield the following season. The experiment stations and others interested in the extension of better corn growing in the northwest have been giving considerable attention to this problem. It appears that there will probably not be more than one year out of three or four in which the extreme north will produce anywhere near a sufficient amount of suitable seed corn for its own use. With this condition confronting us it is probable that the problem of producing in large quantities seed corn for the north at reasonable prices will be solved by the breeding of special types for northern conditions and taking such seed far enough south each year so as to be sure to secure the best maturity and vitality of seed and take this north the following year for general crop purposes. It is true that the growing of corn south of its normal locality has a slight influence each year on the type and season of the corn but this is not sufficient in any one season to be appreciable. If the seed is taken from the north each year and the seed grown south only one year before taking it back to its home locality, the advantages gained from full maturity and higher germination, which are usually found in such corn, more than offset any disadvantage from the corn having been grown in another locality for one season.

There is such a large proportion of years in which the corn in the north does not reach ideal seed condition and yet produce a good yield of good market corn that the proposition of producing and securing **southern grown** but **northern bred** seed is one that has been given the attention of northern corn growers for several years. It is the problem that some of the best seedsmen of the northwest have been working on. It is not the proposition altogether as to **where** the seed corn is **grown**, but **where** was the seed **bred** from which the seed corn was grown? This is the vital point to consider. Seed for northern conditions should not be continually grown in the south year after year from the same original stock. This would ultimately produce a later type of corn not adapted to northern conditions, but the production of seed corn south from northern bred seed is probably the very best method of solving this problem and is the one practiced by the Dakota Improved Seed Company of Mitchell, S. D.

Testing Corn for Germination

In order to be sure of the germination of seed corn it is well to make several tests at several times and possibly under varying conditions. If the seed corn has been carefully selected and carefully stored a preliminary test may be made by taking one kernel out of each of 100 ears or more to determine the general run of the stock. If the test runs very high and strong the necessity for ear-testing is not so great, but it will always prove profitable to ear-test corn when it is possible to do so.

If the seed corn has not been specially stored and one has to depend on corn that has been stored in a crib, it is well to make a preliminary ear-test with a view to determine whether it would be possible to select strong seed corn from the lot in question.

I am referring here to practical conditions, not necessarily to the ideal. For example, in the spring of 1912 the supply of good seed corn in the country was very low and it was necessary to use a large number of stocks of corn showing a germination from 75 to 85 per cent, because very few farmers had good seed corn and it was necessary to use the very best obtainable. If, at that time, every corn grower had insisted upon ideal conditions of seed corn, he would have had to lessen his corn acreage or go without planting altogether. Instead of that farmers of the Northwest did the very best they could and produced the largest crop of corn on record in spite of poor seed in the spring of the year. South Dakota's corn production of 1912 was over 76,000,000 bushels and never before had the state reached much over the 55,000,000 mark.

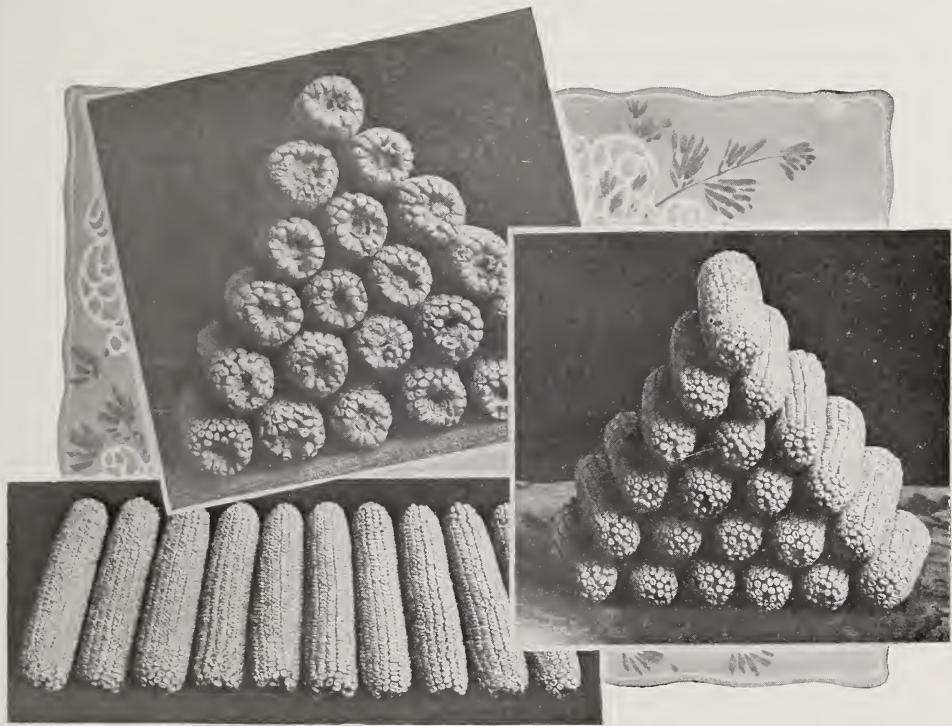
As to the details of testing, will say that there are numerous commercial testers on the market as well as home-made testers which will be found described in experiment station bulletins. These should be consulted freely and the best means at hand used for testing corn. Nearly every state experiment station has published some little pamphlet or bulletin giving full instructions, and these can be secured by writing for them.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.

Disco -White Dent Corn

Many of the corn growers of the Northwest are partial to a white corn. Some think that white corn is harder and a better yielder than yellow. Others think it feeds better. Whatever truth or fiction there may be about the matter, it is certainly a fact that a good deal of white dent corn is raised and that there are strains or varieties that are "making good" over the whole Northwest. We have given the matter considerable thought and list here three varieties of different seasons. We wish especially to call attention to the Disco 85-day and the Disco 90-day varieties.

DISCO 85-DAY WHITE DENT—An improved strain of Payne's White Dent which has proved to be one of the very best varieties for the Northwest. Adapted to northern half of South Dakota, Southern North Dakota, Central Minnesota and other similar locations. A heavy yielder and a good variety in every way. Our stock seed is usually grown in Faulk, Potter and Brown Counties in South Dakota.



Disco 90-Day White Dent

DISCO 90-DAY WHITE DENT—From observations we have made the past two seasons, we feel perfectly safe in recommending this as a general crop for the latitude of central South Dakota and southern Minnesota.

We haven't handled a variety of corn that we have been more enthusiastic over than the Disco 90-day White Dent. It is more than meeting our expectations. Besides being early, the ears are good size and kernel is deep and well shaped. The photographs of this corn on this page show what the corn is. Notice the shape of the ear, the well filled butts and tips, the good type of kernel. In fact, it is hard to pass an unfavorable criticism on this variety.

Besides taking first premium at the South Dakota corn show for several years and sweepstakes in the central district in 1913, and first at the South Dakota state fair in 1912, this corn has won honors in other places and never has had to take a back seat in any place under fair competition.

DISCO 100-DAY WHITE DENT—An acclimatized strain of the Silver King. It is probably true that both the 85-day and the 90-day strains trace back to this well-known variety, as they have some of the ear-marks, but they are now very much earlier. In the Disco 100-day White we wish to preserve much the same season and type of the original Silver King or the Wisconsin No. 7. Recommended for southern South Dakota, northern Iowa and extreme southern Minnesota.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.

Hogging-Down Corn

In Bulletin No. 143, published by the Iowa Agricultural College in September, 1913, Prof. John M. Evvard gives some very valuable experimental results in hogging-down corn. We quote here brief extracts from this bulletin.

Advantages Offset Disadvantages of Hogging-Down

"Obviously there are some disadvantages to "hogging-down" corn, such as wet weather, sometimes packed and hardened fields, difficulty of fencing, loss of stover, and so on, but the practice nevertheless is quite widely followed all over the state in spite of the drawbacks; the significant distinctive advantages in labor saved, rapid, economical gains, fertility increase and others, greatly overshadow the disadvantages. One enthusiastic Iowan who successfully practices the method puts it in this wise: 'There is no way of feeding hogs that has not its advantages and disadvantages.' . . . 'Everyone must solve for himself which predominate.' Another from Pottawattamie county says: 'The advantages are so great in our section that with due regard to the small disadvantages many are planning to do more of it.'

"One man from Marion county may be quoted thus: 'The man who gathers corn that he intends to feed to fattening hogs any time in the fall is like the fellow who insists on plowing with the old wooden moldboard plow, doing hard work without any compensation.' A Hardin county hogman writes: 'I was the first one around here to "hog-down" corn, and they laughed at me, but those that laughed are now the most enthusiastic, saying it is the only way.' This unique expression, 'My neighbors all like to work too well to "hog-down corn,"' comes from Eastern Iowa. 'I have been "hogging-down" corn for ten years and if I should farm for fifty years more would keep right on doing the same thing,' says a man who has studied the problem for ten years and follows it when conditions are right.

"The practical experiments conducted by the animal husbandry section of the Iowa Station demonstrate quite clearly that hogs can gather their own corn to advantage by making efficient use of the grain eaten as they carry on their labor-saving and fattening campaign. The results show, also, however, that in the cornfield, as in the dry lot or on pasture, the same general principles of nutrition govern the hogs' appetite, digestion, assimilation, growth and fattening. In hogging-down it is necessary to figure where the protein is coming from to grow the young hogs. True enough, cornfield weeds such as purslane, lamb's quarter, pig weed, morning glories and others may furnish considerable of the muscle and bone forming materials, yet the commonly used 100 to 150 pound shote is still in need of more building and growing material than is found in corn alone, and if the field is clean, free from weeds, and pasture is not available, some means should be provided whereby the animal is given more muscle and bone building materials than the corn crop can possibly furnish."

Some of the Advantages of Hogging-Down Corn

1. Labor is saved. Four handlings of the corn crop are omitted.
2. Storage charges are saved upon the portion of the corn hogged, inasmuch as crib space is not needed.
3. Returns are equally as good in pork produced where the hogs gather their feed themselves as when it is hand fed.
4. The hogs develop good constitutions with considerable strength and are in excellent condition for quick fattening feed after coming out of the field.
5. No manure is lost, practically speaking, as in dry lot feeding; of course this does not apply to pasture.
6. The manure is evenly and uniformly distributed over the field in such a manner as to do the most good without the intervention of human labor.
7. The crop is harvested without waste, the hogs if rightly managed picking up practically every stray kernel of corn.
8. The weeds may be cleaned up to some extent.
9. Hogs may follow up cattle and otherwise save waste.
10. Facilitates and encourages the gathering of seed corn early from the standing corn in field.
11. Poor stands of corn may be taken advantage of in that rape may be sown at the last cultivation, thus enabling the land to produce a full crop that season; the hogs do the rest.
12. Brood sows which are to farrow spring litters may be advantageously run into the field after the fattening or other hogs are removed.
13. Fall plowing is sometimes possible if the hogs clean up the field early, thus preventing rush of spring work.
14. Organic plant matter will be largely added to the land if supplementary crops, such as rape, rye, soy beans and peas or the like are sown in the cornfield.
15. Corn is harvested more quickly.

The Variety of Corn to Use

"The highest yielding corn which is adapted to the locality is the kind to use. One would do well to have a small field of an early variety of corn, possibly, on which to turn hogs the first thing in the fall, and thus lengthen the "hogging-down" season.

"Sweet corn is a favorite with many because it furnishes pasture which is ready from August 1 on, depending upon variety, season and so on. Thin sows which have weaned their pigs and are ready to be fattened will do exceptionally well in a field of sweet corn, they eating the entire stalk and all at the beginning.

"Sweet corn has the advantage in being green and ready when the blue grass is hard and dry. Furthermore, at this time of year the supply of corn in the crib usually runs low, thus it is a friend in need.

"Rape and other crop supplements make better growth in the sweet corn than they do in field corn ordinarily because of less shade and more optimum moisture conditions early in the season."

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.

Minnesota No. 13 Corn



Minnesota No. 13 Corn

This corn needs no recommendation from us. Any one who has been at all in touch with corn growing in Minnesota and the Dakotas knows about Minnesota No. 13 and its record. Introduced by the Minnesota Experiment Station in 1896, it has been distributed across the United States and into some portions of Canada. It is generally considered as the best early corn. We now have some varieties that are earlier, but it is difficult to find as early a corn as Minnesota No. 13 that is equal in quality and yield. It will go down into history as having done more to extend the corn belt in the northern states than any other one variety. The yield of Minnesota No. 13 in Minnesota and the Dakotas ranges from forty to ninety bushels per acre; fifty bushels per acre is an average yield. One field of this strain, at Mitchell, in 1908, produced good, ripe corn in eighty-seven days from the time it was planted. We recommend this strain for central South Dakota and south central Minnesota. We do not recommend it for southern South Dakota or northern Iowa, for there are varieties which will give better returns at this latitude.

In our strain of Minnesota No. 13 we endeavor to retain the earliness of the true variety by getting the seed for our own planting either directly from the Minnesota Experiment Station or from one of their accredited growers each year. We thus preserve the type of the experiment station strain as nearly as possible, which would not be the case if we continued to raise this variety in the vicinity of Mitchell or south of here from the same stock year after year.

Riverview Special Corn

The Riverview Special has been developed by W. S. Hill on his Riverview Ranch, five miles south of Alexandria, S. D. Riverview Ranch consists of 1,360 acres and is located along the Jim River, in the best corn growing section of the county. It is the home of the famous Riverview herd of Red Polled cattle, which has taken first place at the state fairs of Minnesota, South Dakota, Iowa and Nebraska for several years. Mr. Hill has grown hundreds of acres of Riverview Special corn every year for several years and has maintained a separate breeding plot from which to select his seed, special care being taken to improve it in both quality and yield. The Riverview Special is a strain of the corn known in Hanson County under the name of Shabino corn. Several strains of this corn have been developed in the hands of special breeders under the names of Dakota Gold, Fulton Yellow Dent, Hanson County Yellow Dent, Riverview Special and others. We have looked these over carefully and we think the Riverview Special which we are offering here comes nearer meeting our needs for this latitude than the others. This strain hasn't been selected for the largest type of corn. The ear, however, is of good size and the season of the corn is somewhat earlier than some of the other strains. None of the types has been selected so that they are very pure, but all are good yielders, have a good depth of kernel, shell a large percentage of corn to the ear, produce an ear on practically every stalk, and, summing it all up, they produce a good yield of fine quality corn.

"There is more money in alfalfa and corn for live stock than in any other single crop or combination of crops in the world."—W. A. Wheeler.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.

*Dakota Improved**Seed Company***Prize Cup for Winner in State Corn Contest****Prize Cup for Winner in Each County Contest**

Prize Cups for Boys

Offered by the Dakota Improved Seed Company, Mitchell, S. D.

We believe in encouraging the boys to greater agricultural efforts, and in order to further the interest in corn growing contests conducted by the superintendents of county schools in South Dakota we offer a beautiful silver cup like the smaller one shown above to the boy in each county exhibiting the best ten ears of corn.

This silver trophy cup stands eleven inches high and is beautifully engraved in corn. The name of the winner each year will be engraved on the back of cup. The cup must be won three years by the same boy to become his permanent property.

The large cup shown above goes to the winner of the boys' contest at the state corn show. This cup stands twenty-two inches high and is beautifully embossed and engraved with the leaves and ears of corn.

The competition for this trophy is open to the boy in each county of South Dakota who wins in the county corn contest conducted by the county superintendent of schools. In counties where no school contest is being held any boy 16 years of age or under who has grown the corn for his exhibit and has complied with the rules of the South Dakota Corn and Grain Growers' Association may compete for the trophy. It must be won three years to become the permanent property of any one exhibitor.

The photograph above, on the left, is Ernest Sorenson of Elk Point, S. D., the first winner of the Boys' Champion Trophy.

**Grand Sweepstakes Corn Trophy**

Offered by the Dakota Improved Seed Company for the highest scoring ten ears of corn exhibited at the South Dakota Corn and Grain Show, Mitchell, S. D.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.

Registered



Seed Corn

Disco - Murdock Corn

Exceptionally Good 100-Day Variety for Northwest

In offering the Disco Murdock corn we have a variety that has for the past twenty or more years been developed for earliness and yield. We think it more nearly meets our ideas of the ideal corn for southern Minnesota and South Dakota and northern Iowa than any other variety we know of. It is true that the ears are not large, but they are well formed, shell off a large percentage of corn to the ear; the kernel is deep; the germ is large and the color is as near pure as any variety of yellow corn of equal earliness that we know of. In feeding value the Disco Murdock ranks second to none. It is almost



Disco-Murdock

impossible to find a starchy ear in the lot. Every one who sees a pile of this corn for the first time remarks: "What a beautiful corn!" and it certainly is true that the color of this corn is beautiful. It has the richest golden yellow of any corn that we handle. The cobs are nearly all true to type. One rarely finds a white or pink cob in the stock.

When we first offered this corn in 1908 we were not fully aware of the value of it for the Northwest. Since trying it out for several years and getting results from all those who have purchased seed of us, we find that we made no mistake in offering it, and are in a position now to put our unqualified recommendation back of it. We have shipped it into all parts of northern Iowa, southern Minnesota, southern South Dakota and northeastern Nebraska, and, so far as reports are received, it has made good everywhere that it has been sent.

From careful estimates of the cornfields of Davison County, our home county for the past three years, we think we are perfectly safe in saying that there are more acres of Disco Murdock corn grown here than there are of all other recognized named varieties put together. And this in spite of the fact that for several years we had to turn down hundreds of orders for Disco Murdock seed corn and supply other varieties or cancel the orders altogether.

We do not especially recommend the planting of this variety of corn much north of the latitude of Mitchell or the southern tier of counties in Minnesota. We have reports of very satisfactory yield and full maturity at quite a number of points north of this, but still we do not feel fully safe in recommending it very much north of this latitude.

WIMPLE'S YELLOW DENT—(110 days.) A variety that is grown considerably in some localities of southeastern South Dakota. It is rather late for the latitude of Mitchell, but matures here in favorable seasons. The ears are of good size and very rough. The kernels are deep, have a decidedly pinched dent and are usually somewhat starchy. The variety has won premiums at a number of corn shows and is popular with some who like a very rough corn. Wimple's Yellow Dent is not always carried in stock by the Dakota Improved Seed Co. Refer to price list.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.



Corn for Forage or Ensilage Corn

Fodder corn is a very valuable crop on the farm, but in the Northwest in particular it occupies a place that cannot be filled well by any other crop. It not only produces a large amount of forage to the acre, but supplies a cultivated crop that can be used in systems of crop rotation in place of the summer fallow. We all know that the summer fallow is not an economic proposition on the farm and that it is far better to grow a good cultivated crop and keep it well cultivated. In the selection of corn for fodder purposes we do not recommend planting the very large, late varieties in the north, because they do not come near enough to maturity to produce the largest amount of feeding value. They are mostly wood fiber and water. We recommend the early varieties that come nearly or quite to maturity for this purpose. It is not so necessary that the crop fully mature as it is with corn grown for other purposes, but the nearer it comes to maturity, the greater the food value and the more valuable it is to the stock feeding on it.

The following is quoted from Bulletin No. 65 from the Central Experiment Farm, Ottawa, Canada. The reasons given here are equally applicable to the entire Northwest.

Reasons for Growing Forage Corn

The reasons for growing or making an attempt to grow this forage crop wherever live stock are kept in any numbers are numerous and cogent. A few of them follow:

1. As a plant capable of yielding a large amount of valuable forage under a great variety of soil and climatic conditions, corn is without an equal.
2. When properly preserved, whether as ensilage or dried, it can be used as material to render other less palatable roughage more acceptable to farm animals.
3. It is the best plant or crop for ensiloing that can be grown to advantage in Canada. It is practically a perfect crop for this purpose, hence it helps to solve the great problem of how to furnish an abundant and cheap supply of succulent food for winter or summer feeding of dairy or beef cattle.
4. When properly grown and well preserved as ensilage, it is the equal of or superior to roots in feeding value and palatability. It can, however, generally speaking, be more cheaply grown and more easily preserved than roots.
5. The labor of growing an acre of corn is of a character much more agreeable to perform and much less arduous than that of growing an acre of roots of any description.
6. Corn being a cultivated or hoed crop serves well to clean the land, that is, free it from weeds, so fitting it for grain growing, and putting it into shape to seed down to grass or hay.
7. Corn is a gross feeder and may be depended upon to make good use of a never so abundant supply of plant food. It is, for this reason, particularly well adapted to occupy that place in the rotation where humifying vegetable matter and a fairly liberal supply of barnyard manure unite to supply large quantities of plant food suitable for root, leaf and stem growth rather than for seed production.
8. The growing of corn on a fair proportion of the arable land on the farm will permit of keeping more cattle and so increase the revenue as well as augment the manure supply so essential to the maintenance of soil fertility.
9. Corn when preserved as ensilage, can be stored much more cheaply in much less space than any other roughage. In addition, stored in this way, it will keep indefinitely and is always ready to feed.

10. In thirty years' experience in farming in the Ottawa valley, the writer has seen all kinds of grain crops utter failures, he has seen hay so light as to not pay for the making, and roots and potatoes practically nil, but in all that time he has never seen a failure in the corn crop. There has always been a fairly profitable return from the fields in corn.

The varieties of corn offered by the Dakota Improved Seed Co. for fodder corn are grouped under the following names:

NORTHERN FODDER CORN—Suitable for growing in the extreme north. We use the earliest varieties we carry for this purpose.

MEDIUM FODDER CORN—Includes varieties like the Disco Murdock, Silver King and others of this season.

EARLY SWEET FODDER—Very fine for early feed. Sow broadcast or in drills.

EVERGREEN SWEET FODDER—Tall growing sweet corn, producing a large weight of foliage and stalks per acre.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.

Second Grade Seed Corn

In handling and cleaning our varieties of seed corn it often happens that some portions of our choice lots have to be kept out because of some accidental mixture of other varieties. This sometimes amounts to 5 per cent of the lot, but oftener it is only a trace. Because of this mixture we cannot offer these lots as first grade seed corn. They represent the same field stocks as first grade corn, and for many purposes are equally good.

We do not like to go on record anywhere as recommending anyone to use second grade seed of any kind, but we can candidly say that in many cases for all practical field purposes some of our second grade seed corn will give returns equal to the first grade. The same can usually be said for Emerald brand alfalfa.

Whenever we have these in stock we will offer them at prices much lower than first grade corn. When ordering give first and second choice of variety, for our supply of any one variety will be limited.

A "Boost" for Brown County Yellow Dent

Permit me to speak a word of praise for your Brown County Yellow Dent corn. The half bushel of seed which I got from you last spring did not reach me until after all my other corn was planted. I planted this on a separate plot and gave it the same treatment as my other corn. We had no rain from July 4 until August 13—at the latter date the Brown County Dent corn was well eared, with an occasional ear getting ripe, while the rest of my corn was standing still waiting for rain. Had it not rained on August 13 the Brown County Dent would have made good corn, as it was practically made at that time, while the other corn would have been a failure. My main crop the following year will be Brown County Dent, for, although it is a small corn, it is more drouth resistant than any other corn in South Dakota. I would recommend its use everywhere west of the ninety-ninth meridian.

Yours respectfully,

H. H. STONER.

Superintendent of South Dakota Farmers' Institutes.

Highmore, S. D., January 16, 1909.



Several Exhibits of Disco Seeds.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.



Dwarf Essex Rape

Rape can be put to quite a number of uses. It may be sown alone as a spring crop to provide early pasture. It may be sown with spring grain to provide fall pasture after the grain is cut. In this latter case it is better sown after the grain is up and the ground dragged immediately after sowing to cover the seed. As it is a common practice to drag or weed our grain crops after they are up, the sowing of rape at this time can be easily done. Rape may also be sown just before the last cultivation of corn to provide fall feed and increase the yield of feed per acre of ground, or rape may be sown with fall rye to provide fall pasture.

The uses of rape are hardly limited to those mentioned above, as it may be sown at almost any time of the year and will provide quickly a large amount of forage. The farmers of the Northwest have not yet come to realize the possibilities of rape. There



Rape Sown in Corn at Last Cultivation

Rape Sown with Small Grain for Fall Pasture

are thousands of acres of land sown to small grains that could be made to yield an abundant fall pasture by the sowing of two pounds of rape seed to every acre of ground. The cost of the seed is so little and so small an amount is required that there is really no expense connected with it compared to the value of feed that is secured. The amount of seed that is sown per acre varies from two to six pounds, depending upon the way it is handled. When sown alone, from five to six pounds are recommended. When sown with small grain, two to three pounds.

Sorghum

In many localities sorghum is taking the place of corn as a fodder crop. The reason for this is that it will stand more dry weather than corn. It also produces more weight of palatable fodder per acre. Where sorghum is grown to cut for hay it should be sowed broadcast at the rate of about thirty to forty pounds per acre. If it is to be cut with a corn binder it should be sowed in drills three feet apart at the rate of six or eight pounds per acre. We consider the latter method the better.

AMBER CANE—This is the common type of Amber Cane grown throughout the northern states for fodder purposes. It produces an abundant crop of fodder of very fine quality. It can also be used for syrup, and at several points in our northern states it is grown for this purpose.

S. D. No. 341 AMBER CANE—This is an extremely early strain of Amber Cane which has been grown at the Highmore and Belle Fourche Experiment Stations for several years.

KAFFIR CORN—This is one of the non-saccharine sorghums and is used as a fodder plant all through the great plains region. It makes a very strong growth and produces an abundant supply of excellent fodder, either green or dry. It is relished by all kinds of stock. Sow at the rate of fifteen to fifty pounds per acre in drills or broadcast.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.

Disco Flint Corn



either alone or with other forage crops for this purpose.

DISCO AMBER FLINT. (90 days)—A variety that has been bred to overcome the undesirable traits of some of the other varieties of flint corn. It is a good yielder, producing from thirty-five to forty-five bushels per acre under ordinary conditions. It has a fair sized ear and carries it well up on the stalk, while most other flint sorts produce the ear on the extreme lower part of the stalk, thus making it a back-breaking job to husk the corn. The stalks are good height, leafy, and ordinarily produce two good ears to each stalk.

In breeding for the above desirable qualities, earliness has not been lost sight of. In fact, this variety is even earlier than most other flint varieties and about the same season as the very early strains of Minnesota No. 13.

The typical color of this variety is amber, but some of the ears are almost red at the tip, like the old Smut Nose Flint, so well known in the North.

DISCO 80-DAY WHITE FLINT—Ranks with Gehu as being one of the earliest varieties of flint corn. Very dwarf and suitable for early hog feed or for late planting to "hog-off" in the fall.

DISCO-MERCER FLINT (80 or 85 days)—Considered one of the best varieties of corn for planting in the northern half of North Dakota. One of the earliest varieties and a good yielder. The ear is of fair size and has eight rows of clear yellow kernels.

GEIUI FLINT (80 days)—One of the earliest varieties of flint corn. Ears small, short, yellow in color. Recommended for the extreme north, where other kinds will not mature.

DISCO-SQUAW CORN (85 days)—A very early "Native" variety, having kernels all colors of the rainbow. A very beautiful corn and one that is very popular for late planting.

WHITE SQUAW CORN—Varies in type from a true white flint to a strain called White Flour Corn. The kernels of the latter are starchy and not hard like the true flint corn. Season from 85 to 95 days.

LONGFELLOW FLINT (90 to 95 days)—An eight-rowed yellow flint variety, well known almost everywhere in the North. A good yielder and very popular.

TRIUMPH FLINT (95 days)—A twelve-rowed standard yellow variety. One of the best yielders and very popular.

Amber Flint Corn.

SANFORD FLINT (100 days)—An 8-rowed white flint corn, popular in the Eastern states. Hardly early enough for the extreme Northwest.

There are several varieties of flint corn described above that are not usually grown or carried in stock by the Dakota Improved Seed Co. Please refer to page of prices on seed corn for information covering stocks offered.

There is always a large demand for flint corn in all the Northern states and Canada. The various types of flint corn vary somewhat in earliness and yield, but all of them seem to possess the ability to mature a good crop of corn under adverse conditions. In the Northwest flint corn is largely used as a crop for "new breaking." It is also much used for late planting, where early crops fail to grow or for any reason the crop cannot be planted until late in the season. In this latitude it can usually be depended upon to produce good corn if planted as late as the 4th of July. Flint corn is a very good type of corn to plant where the crop is to be fed in the field. It may be planted



Millet



Millet. Head of Black Voronezh and Field Showing Rows of Kursk Millet Grown for Selection at the Government Experiment Station, Newell, S. D.

DAKOTA SELECTED KURSK—Our Kursk millet has made good. We put this out to the farmers of the Northwest in 1908 for the first time. As both a hay and seed producer it ranks very high, as shown by results secured the past four seasons. This variety has been grown at both the South Dakota experiment stations every year since it was introduced in 1898 from Kursk, Russia. It has given excellent results during the whole time, and in dry years the weight and quality of the hay have been far ahead of the common German or Hungarian millet. In favorable seasons the difference has not been so marked, but is always in favor of the Kursk. Our stock is grown from selections that were made at Brookings by Mr. Wheeler in 1904.

In dry sections we do not think the German millet can compare with

conditions, however, the German gives excellent returns. We refer to the finer quality of German millet, and not to the coarse stock that comes from the extreme south. The coarse southern seed produces a great bulk of hay, but of rather poor quality. Our stock of Kursk millet has been in demand by seedsmen all over the Northwest.

DISCO-KURSK No. 1—A pedigreed strain of Kursk Millet that has been selected for several generations by Mr. A. C. Dillman at the Government Experiment Station, Newell, S. D. This selection has shown a marked superiority over other selections in drouth resistance and we recommend it particularly for localities with a limited amount of rainfall.

SIBERIAN MILLET—This is the same type of millet as the Kursk. In fact, the Kursk millet is a special importation of this millet from Russia. Our Dakota Selected Kursk is a pedigreed Kursk stock. What has been said of the adaptability of Kursk millet to the Northwest applies to a large extent to the regular Siberian millet.

GERMAN MILLET—This millet occasionally makes a taller, ranker growth and produces a greater weight of hay per acre than the Kursk, under favorable conditions. Our stock is clean and of excellent quality, and unless otherwise specified, is Dakota grown.

JAPANESE MILLET—This millet produces an abundance of hay, but it is coarse and of rather poor quality.

BLACK VORONEZH MILLET—This is a variety of broomcorn millet imported by the United States Department of Agriculture in 1898. So far as our records show, where it has been distributed throughout South Dakota, it has given remarkable yields of seed. This millet is not used for hay, but is grown only as a seed crop and is used to feed chickens and hogs. We do not recommend it for very moist localities, for it succeeds much better under drier conditions.

EARLY FORTUNE—This is one of the broomcorn type of millets similar to the Black Voronezh, except in color of seed, which is red instead of black. This is grown more generally in North and South Dakota than the Black Voronezh.

Prices of Seed Corn, Rape, Sorghum and Millet are given on page 8.

Disco Alfalfas

There is more money in alfalfa and corn for live stock than in any other single crop or combination of crops in the world.—W. A. Wheeler.

There may be some who have not given the matter much thought who will doubt the correctness of the above statement. Alfalfa is coming to be recognized as the great forage crop of the country. Those who have grown alfalfa, fed alfalfa and lived with alfalfa for any length of time know that this maxim is merely a statement of fact which goes without question. Recognizing this, it is clear then that the localities where these two crops can be grown are best for live stock. The territory where these two crops are grown is being extended every year. It is being recognized that there is a very small portion of the country that cannot grow these two profitably and successfully.

The Dakota Improved Seed Co. has given special attention to alfalfa ever since the birth of the organization in 1906. Alfalfa and corn have been our specialties and with alfalfa in particular, this company is recognized as the foremost dealer in high grade stocks in the United States. The adoption of the trade mark name "Disco," which word is easily recognized as being made up of the initial letters of the company name, and the formulation of a definite system of registration of alfalfas, mark an epoch in the history of the organization. Disco Registered Alfalfas and Disco Pedigreed Alfalfas are now recognized over the entire northern half of the United States as the standard strains of alfalfa seed. The name "Disco" is a familiar word, not only as applied to alfalfa, but as a mark of pedigree and quality on many other special kinds of seed as well. Wherever the name "Disco" is used as the name of a brand or in conjunction with numbers or other names as designating varieties, one can rest assured that the stocks or varieties designated in this way are the acme of type and quality. It does not imply perfection, for that is impossible, but it does imply the nearest to this that can be practically reached at the present time and under present conditions.

The special alfalfa investigations and plant breeding work conducted by the Dakota Improved Seed Co. are the continuation of the work begun by the writer and Secretary of the company while holding the position of botanist of the South Dakota Agricultural College and Experiment Station some years before the organization of the company. This work was begun at the Brookings and Highmore Experiment Stations in 1904 and has been continued at Mitchell since 1907.

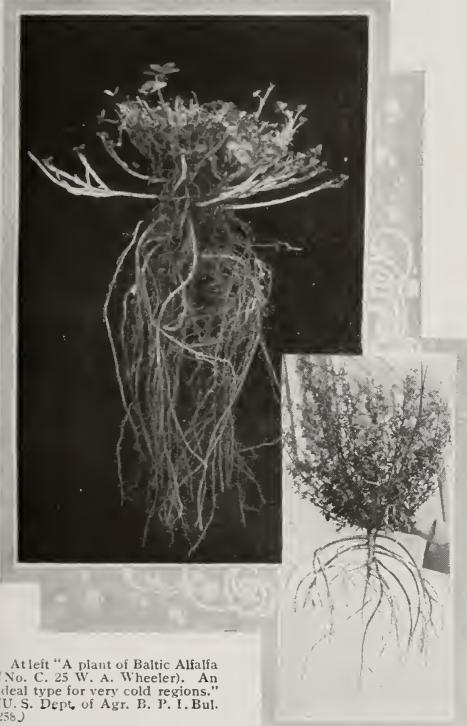
Writer at Highmore in 1904 is recommended State Experiment Stations as the pioneer work in the breeding of hardy alfalfas for northern conditions. The parent stocks selected at that time for investigational work in plant breeding and the selections from these stocks have served as the foundation for most of the plant breeding work in alfalfa in the northern states and Canada. The Disco Pedigreed alfalfas represent the "cream" of these selections. The Disco Registered Acclimatized alfalfas represent the best of native and other stocks selected with the information as to type and characteristics obtained through years of plant breeding work with this crop.

These few words state briefly the significance and meaning of the term "Disco Alfalfas." We have laid a foundation for the handling of the best in alfalfa seed that is deeper seated than that of any other state or private organization in the country. We have spent much time and money in bringing Disco Alfalfas to the prominence that they now have and it is our aim to continue in this work and not only keep abreast of the times, but to lead the procession.

The reading of the few pages following, giving some brief cultural directions and descriptions of alfalfa, will give anyone a more accurate knowledge of this crop. Much more could be said than has been given in these pages, but it has been the writer's plan to make this treatise short and to the point.

DAKOTA IMPROVED SEED CO., Mitchell, So. Dak.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.



At left, a plant of Baltic Alfalfa (No. C. 25 W. A. Wheeler). An ideal type for very cold regions." (U. S. Dept. of Agr. B. P. I. Bul. 258.)

At right, a plant of Disco 19A Alfalfa four months from seed, grown under extremely dry conditions.

Both plants show the spreading crown and branched roots so typical of hardy alfalfas.

The plant breeding work started by the U. S. Department of Agriculture, the pioneer work in the breeding of hardy alfalfas for northern conditions, the parent stocks selected at that time for investigational work in plant breeding and the selections from these stocks have served as the foundation for most of the plant breeding work in alfalfa in the northern states and Canada. The Disco Pedigreed alfalfas represent the "cream" of these selections. The Disco Registered Acclimatized alfalfas represent the best of native and other stocks selected with the information as to type and characteristics obtained through years of plant breeding work with this crop.

These few words state briefly the significance and meaning of the term "Disco Alfalfas." We have laid a foundation for the handling of the best in alfalfa seed that is deeper seated than that of any other state or private organization in the country. We have spent much time and money in bringing Disco Alfalfas to the prominence that they now have and it is our aim to continue in this work and not only keep abreast of the times, but to lead the procession.

The reading of the few pages following, giving some brief cultural directions and descriptions of alfalfa, will give anyone a more accurate knowledge of this crop. Much more could be said than has been given in these pages, but it has been the writer's plan to make this treatise short and to the point.



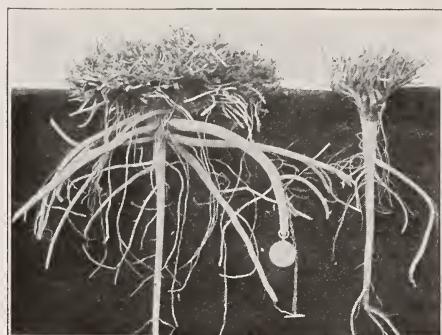
Hardiness and Acclimatization

In selecting alfalfa seed for the Northwest one of the principal points to consider is the ability of the strain to survive severe winters. There are certain strains or varieties of alfalfa which possess this hardiness to a very marked degree and such should be chosen in preference to the more tender ones. The alfalfa plant shows a great range in cold resistance. Some strains will winter-kill in severe winters in the latitude of Kansas and Missouri, while there are other strains that survive the most severe winters of North Dakota and Canada. There are a great many other strains which range in hardiness between these two extremes.

The best policy is to secure an alfalfa that has been tried out under the most severe conditions, or in other words, is of known hardiness. Disco Registered Alfalfas, such as Disco-Baltic, Disco-Grimm, Disco Nos. 28 and 38, Disco 19A, 32C and 62B, and perhaps a few others, come in this class. Even though the price of the Disco Registered Alfalfa seed may be double that of ordinary alfalfa of unknown record, the actual expense of

securing a good stand under northern conditions is very little if any greater, and one has the assurance that they are not likely to be winter-killed the first hard winter. It is hardly necessary to use more than one-half the amount of seed of the hardy Disco Registered Alfalfas that is necessary of even the best home grown commercial seed. It is, of course, very poor policy and out of the question for progressive farmers to use seed from the extreme South, for it would be simply throwing away money or running the risk of possibly one or at most, two or three years of cropping if the winters were mild.

It appears that some strains of alfalfa have been improved very much by acclimatization. I do not wish to be understood as implying that all alfalfas are of the same origin, or that the same results can be secured through acclimatization in the same period of time with all strains. It appears from experiments that the hardiest known alfalfas in the United States today are the Disco Registered Alfalfas mentioned above that have been grown in the extreme North for quite a number of years. There is considerable evidence to show that much of this extreme hardiness was acquired through acclimatization.



Representative plants of the Hardy and Non-hardy type of crowns of four-year-old alfalfa taken from the same nursery, grown as single plants under the same conditions. The plant on the right, the common or Southern type; the plant on the left, a fair sample of Baltic alfalfa, a variety found growing near the little town of Baltic, South Dakota. (Bul. 181, Col. Ag. Exp. Sta.)

Relation of Type to Hardiness

From Colorado Experiment Station Bulletin No. 181, by Prof. Philo K. Blinn, I quote the following:

"In Minnesota and in North and South Dakota, where the winter conditions are far more severe than in Colorado, the tests of alfalfa varieties for cold resistance have been very interesting. In several large variety tests the same results have been secured, namely, the Grimm, Baltic, and Turkestan varieties of alfalfa have proven to be the most hardy of a large list of alfalfas from different parts of the world. These results tally almost exactly with the results of similar tests in Colorado. All of these three strains have a distinct type of crown as compared to the type of crown found in the non-hardy varieties. The fact is, the **hardy strains of alfalfa have spreading crowns with underground root stocks and shoots with buds which are protected by soil, from winter freezing.**

"The non-hardy strains of alfalfa have more upright stolering crown with the bud areas very near the surface, exposed to winter freezing, thawing and drying out. Hence, there is a decided relation between the **TYPE OF THE CROWN** and its tendency to winter-kill.

"The stolering traits of the hardy strains are shown in the early seedling stage. This is illustrated in figure on another page which shows some seedlings of Grimm's alfalfa only six weeks from seed. The other figure on the same page shows some ordinary Spanish alfalfa of the same age. Both lots were taken at the same time and under the same conditions in the field. The heavy stolering habit of the Grimm's alfalfa is very evident. The significant value of this trait can hardly be overestimated. It not only affords immunity from winter losses, but the protected underground buds are less liable to injuries from over-pasturing or attacks from grasshoppers. The spreading crown seems to be associated with a very much branched surface root system in addition to the deep tap root. This growth habit makes surface moisture easily available. Hence, it is not surprising that the Grimm's and Baltic alfalfa should have proven to be the best type for dry conditions. This is confirmed in the dry land tests.

"The Grimm's and Baltic strains of alfalfa have revealed the most promising traits in the Colorado tests, but the Baltic seems to be in the lead in seed production and slightly in the lead in hay yields. Apparently there is little difference except in seed yield, yet there are contrasts in the relative merits of different selections which are evidently transmitted. Hence, the strains of alfalfa can be made more uniform through seed selection."

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.



Photographs of portions of the alfalfa nurseries of the Missouri and Indiana State Experiment Stations to show winter-killing of tender strains even under a milder climate.

Missouri alfalfa nursery on left, showing check row grown from Nebraska seed winter-killed and a row of hardy alfalfa on each side in perfect condition. The row on left of center is Minnesota Grimm or Disco 25 and is the best row of the entire series.

Indiana Alfalfa nursery on right, showing several rows winter-killed, while the rows of other hardier strains survived.

Disco Registered Alfalfas

For some years the Dakota Improved Seed Co. has been handling the very best alfalfa seed stocks that could be secured in the Dakotas and Montana. It has always been the aim to secure those having the best record and those grown for the longest time under northern conditions. Such stocks of seed have been handled under stock numbers and have been designated in various ways. The Dakota Improved Seed Co. now presents for the first time a system of registration of alfalfa seed that just exactly meets with our ideas as to what ought to be done in this direction.

The idea of formulating a plan of registration so as to check up all special stocks of native, acclimatized and pedigreed strains so that they would be known definitely for all time by a **Disco Register Number** occurred to the writer early in 1913. The initial plan was discussed in detail with the agronomists and other field crop investigators of the State Experiment Stations of North and South Dakota, Minnesota, Wisconsin, Michigan, Ohio, Indiana, Illinois, Missouri, Iowa and other states before it was presented to the public. Every one with whom this was discussed has signified his most hearty approval of the plan and by most of them it is considered the only feasible plan of getting down to a working basis and knowing just what one is doing in experimental work with this crop as well as with others. The ultimate aim of the **Disco Registration System** is that it will be applied only to pedigreed stocks. It will be many years, however, before pedigreed alfalfa seed can be produced in sufficient quantities to warrant the limiting of registration numbers to pedigreed stocks only. In the meantime, Disco numbers will be applied to desirable acclimatized native or other stocks that have been grown for ten years or more in the Dakotas or Montana or under northern latitudes or equally severe conditions. Many of these stocks have records of from 25 to 30 years in the Dakotas, for example, **Disco Numbers 28 and 38**, but for convenience we have set an arbitrary minimum record of 10 years of acclimatization for all Disco registered strains of seed.

There will undoubtedly be other plans of registering alfalfa seed proposed during the next few years, but they must not be confused with the **Disco System** of registration. No number means anything without being tied up to the name of the organization giving the number, so the name **Disco** should always be used in connection with the numbers in order that they may mean just what they should.

The advantages of using only **Disco Registered Alfalfa Seed** are very apparent to anyone who handles farm crops. The up-to-date farmer would no more think of going to his neighbor and buying just seed oats than he would think of going out of the business. Instead he would ask for Swedish Select or Sixty-day oats, or whatever variety or recognized registered stock he wanted. Why should not the same line of reasoning be applied to alfalfa seed? Instead of buying just alfalfa seed, buy **Disco No. 28** or **Disco No. 38** or any other Disco registered number, and thus be able to know just what you are getting and be able to secure more seed of the same number or its equivalent later if desired. The Dakota Improved Seed Co. will keep the most complete records of these numbers and will thus be able at any time to tell what ones are best for certain localities or certain conditions. This system will enable the grower to select just the strains that have given the best records in his particular locality.

As outlined on another page, we are making special trial collection offers which will enable anyone to test a number of registered alfalfas in comparison with the ordinary commercial strains with very little effort and expense.

The time has now passed when up-to-date farmers will buy just alfalfa seed or just Western, American, Turkestan, Montana or Kansas seed, but will buy **Disco Registered Alfalfa Seed** listed under the system approved by the best Agricultural Experiment Stations and alfalfa authorities in the country.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.

Preparation of Soil

Because of the newness of many of the farms of the Northwest, alfalfa has often been sown upon newly broken prairie, sometimes with only very little preparation of the soil. Occasionally very good returns are received from this kind of treatment. In general, however, the use of new ground is not to be recommended. The best preparation of soil for a crop of alfalfa is to have it used for a small grain or cultivated crop for three or four years previous to the sowing of the alfalfa. If the land is old land and has been deeply plowed and well cultivated in the past, it can be prepared immediately for alfalfa. The reason for giving new land three or four years of cultivation before sowing the alfalfa is very apparent, if one gives the matter slight thought. This treatment is necessary to get the surface soil worked to a depth of 7 or 8 inches and to hold the precipitation in this surface soil and allow it to permeate into the subsoil for two or three years before the alfalfa is sown.

The deeper the soil of the alfalfa field is plowed the year previous to the sowing of alfalfa, the better. Alfalfa should not be sown upon a newly plowed field. If the field upon which it is to be sown has been plowed the same year, it should be thoroughly cultivated and worked down so that there is no loose soil under the surface before the alfalfa seed is sown, and it is better to have from four to six weeks elapse after plowing and deep cultivation before sowing the seed. I would consider an ideal preparation to be as follows: Plow the ground either in the fall or very early in the spring and if possible disk the land before plowing. As early as possible in the spring or immediately after plowing, if the plowing is done at that time, harrow the ground very thoroughly, so as to firm the soil below the surface. Repeat this harrowing at intervals of ten days or two weeks up to the seeding time, which will be the middle of May or later. In this way practically all of the weed seeds that are within an inch or two of the surface will have germinated and have been destroyed. This treatment is of the greatest importance, for there is nothing that tends to injure young alfalfa plants more than crowding by weeds. Just before seeding drag the field thoroughly and prepare it as you would for the finest garden vegetables. Don't be afraid of putting too much work in preparing the surface of your field, leveling and putting it in the best state of tilth. Every dollar spent in this way will pay as big interest as any investment made on the farm. One of the finest fields of alfalfa that I know of in the state of South Dakota, which is on the farm of Isaac Lincoln of Aberdeen, owes its present value and condition to two things: First, the most thorough preparation of the seed bed, and, second, the fact that it is Disco-Grimm Alfalfa, which is one of the hardiest varieties known.

Care During the First Season

Even where the strictest precautions are taken to eliminate weeds before seeding alfalfa, there will probably be quite a percentage of weeds appear at the same time as the alfalfa. These can to a large extent be destroyed just as soon as they are high enough to be reached by a mowing machine. When this is done, set the mower a few inches from the ground, so as to just clip the tops of the weeds and the alfalfa. The alfalfa will start along and grow faster than before and most of the weeds will be checked in growth. It may be necessary to make a second or third clipping during the season. If the weather has been particularly favorable to the growth of the alfalfa, the last cutting may be used for hay, but it should not be made so late that there is not time enough left for the alfalfa to make a good growth before winter to protect it from winter-killing. Alfalfa seems to be more susceptible to winter-killing the first winter after it is sown than later. One should do everything possible to protect his fields from the effects of severe winters. Even with hardy strains it is probably true that they will be better off and produce a better growth and larger yield of hay the following season if sufficient winter protection is given by late fall growth.

Cultivation of Alfalfa

In the production of alfalfa under dry land methods, it is proper to apply all the knowledge that we have regarding the holding of soil moisture for the use of the crop. It is true that alfalfa will survive without a large supply of water, but every pound of a limited supply of water that we can save can be profitably used by this crop. In holding moisture in an alfalfa field about the only thing we can do is to cultivate the field when conditions are right. An ordinary disk may be used for this purpose, but far better than this, one of the special alfalfa cultivators can be used. Cultivation can be done at any time after the second year from seed just after cutting the crop of hay or before the growth has started in the spring if the ground is dry enough to work up readily. This process not only serves to work up the ground and hold the moisture, but has a tendency to break up the crowns of the alfalfa and cause them to shoot out from lower points and give the appearance of thickening the stand. It also tends to keep the field free from weeds.

Cultivating the alfalfa, if properly done, is one of the most valuable practices to follow and has other beneficial effects besides that of conserving the moisture. If done at the right time, in the right way, there is no danger from the practice. In fact, an alfalfa field after cultivating may appear to be chopped all to pieces and yet recover from this treatment to the extent of producing 30 to 50 per cent more hay in the succeeding crop or crops than it did previous to treatment.

Several kinds of cultivators are in use for cultivating alfalfa. The various machines using the spring-tooth system seem to be giving better results than either the spike-tooth or ordinary disk, though any tool that will stir up the ground without cutting off the alfalfa crowns is useful.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.



Portion of Alfalfa Nursery at the Michigan Agricultural Experiment Station. The rows on the left of man standing in center are a number of Disco Alfalfas furnished to the station for trial in 1910. A strong contrast is here shown between the extremely hardy Disco Alfalfas and the tender common strains.

Disco Pedigreed Alfalfas

The work of developing pedigreed strains of hardy alfalfas was begun by the writer at the Brookings and Highmore Stations in 1904. As a result of this work there have been produced a number of strains of alfalfa that show a decided superiority over the common alfalfa as well as over the parent stocks from which the pedigreed strains were selected and developed. Because of the numerous obstacles in the way of conducting this line of work, the progress made has been necessarily slow and the amount of seed produced from improved strains necessarily small. Even under these adverse conditions, the writer has made very marked progress during the past ten years and has developed some very desirable strains which can be offered in a small way to Experiment Stations and others interested in this line of work.

The pedigreed strains growing in the **Disco Alfalfa Nursery** today represent selections from the first to the seventh generation. Practically all of them trace back to the parent stocks of Disco-Grimm, Disco-Baltic and Disco-Turkestan, all of which have developed remarkable records of hardiness and production. In the Disco common nursery there are about 100 stocks of alfalfa seed under trial from various sources. In addition to the common nursery, there are also isolated plots of the best **Disco Pedigreed Alfalfas**, each of which represents the direct product of the seed of a self-pollinated individual of one of the most desirable strains. These self-pollinated plants have back of them several generations of open-nursery selection and the self-pollination is only done to bring about closer adherence to the type of plant sought in making the selection. Quite a diversity of types can be seen in our common nursery between the stocks from different sources, but more pronounced lines of demarkation are apparent between the pedigreed selections because of their closer conformity to special types.

We believe that our work in the development of pedigreed strains of alfalfa is the most important work that we have done and ranks as the leading work of the kind in the country today. In fact, we know of no other commercial organization in the world conducting the kind of investigational work with alfalfa that we have done and are continuing to do. The Disco alfalfa nursery is visited very frequently by Experiment Station workers from all over the United States and Canada, and the writer is quite freely consulted by the foremost authorities in the country on this line of work.

Until the Disco pedigreed strains have been increased to much greater quantities than at the present time, they will have to be offered at high prices and will probably be used only by Agricultural Experiment Stations and others particularly interested in the increase of alfalfa for seed. The general stocks of Disco-Baltic, Disco-Grimm and Disco-Turkestan, though not in a strict sense pedigreed alfalfas, are usually grouped with the pedigreed strains because of their remarkable records of hardiness and production. In the numbering of Disco registered pedigreed strains, a letter is often used following the number to designate the parent stock from which the selection has been developed. Among the registered pedigree selection numbers from these three parent stocks that show up most prominently at the present time are the following:

From the Baltic—Disco Numbers 11C, 12C, 13C, 31C, 32C and 84C.

From the Grimm—Disco Numbers 1A, 2A, 5A, 6A, 10A and 19A.

From the Turkestan—Disco Numbers 13B, 14B, 15B, 16B and 62B.

The letters A, B, and C simply designate the parent stocks from which the pedigreed selections have been made.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.

Seeding

TIME OF SEEDING—When one comes from the East to the farms in the Middle West one of the most noticeable things among the farming operations is early sowing of most farm crops. It seems to be a mania with most western farmers to get the seeds into the ground just as soon as the snow is off in the spring. I must admit that in many cases the best returns are gotten in this way.



Seedlings of the Grimm's Alfalfa, six weeks from seed, showing the early stooling traits. (Col. Agr. Exp. Sta. Bul. 181.)

able moisture conditions the alfalfa seed will germinate much quicker and make a much more rapid growth in warm weather than in cool weather. Many seedings made during the month of April take so long to germinate and make such a weak growth that they are likely to be crowded by weeds or otherwise stunted before they get half a start.

RATE OF SEEDING—It is often recommended that alfalfa be seeded at the rate of from 20 to 25 pounds of seed per acre. When this rate of seeding is recommended the apology or excuse for the recommendation of so heavy a seeding is usually that "practice has shown this seeding to give the best returns." I myself some years ago recommended as high as 20 pounds of seed to be sown per acre with this same explanation. This, however, is a great reflection on our methods of culture and preparation of the ground. Every pound of alfalfa seed that is sown to the acre places upon each square foot of ground about 5 seeds. If it were practicable to distribute the seed evenly over the entire field and every seed produced a good plant, this would be more than would be necessary for a good stand of alfalfa under any conditions. Twenty pounds of alfalfa seed sown per acre would at this estimate place 100 seeds to each square foot, which is several times as many as necessary.

I am inclined to think that one of the chief reasons for the apparent necessity of heavy seeding has been the lack of adaptability of the strains of alfalfa that have been grown to the conditions, and to careless preparation of the seed-bed. In the alfalfa-producing sections of the extreme West and Southwest a seeding of 20 pounds per acre would be considered very wasteful. Six to ten pounds are usually considered sufficient. If adapted strains were used and thorough preparation of the soil made in the dry land regions of the middle west, it appears to me that there would be no more necessity for the seeding of 20 to 25 pounds here than there would be in the older alfalfa-producing sections. In fact, I have gotten in the habit (which habit, by the way, has been secured by observation and experience) of recommending for the Disco-Baltic alfalfa, Disco-Grimm alfalfa and other adapted strains, the seeding of only 8 to 12 pounds per acre. With seed of ordinary percentage of purity and germination this quantity should be sufficient.

In Minnesota, Iowa and states east of these it is still the practice to sow 15 pounds or more seed per acre. My experience does not extend far east, but I believe that results will soon show that the lighter seeding of adapted strains is preferable even for the more humid conditions of the eastern states.

(Continued on page 56.)

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.



Seedlings of the ordinary Spanish Alfalfa, six weeks from seed, showing the upright growth and less tendency to stool or form a crown. (Col. Agric. Exp. Sta. Bul. 181.)



Load of alfalfa seed weighing 5,930 lbs., produced on 20 acres of land near Mitchell, S. D.
For this load the grower received a check for \$1,008.30.

Disco-Baltic and Disco-Grimm Alfalfa

Disco-Baltic—S. D. Exp. Sta. No. 167—Disco Register No. 78.

Disco-Grimm—S. D. Exp. Sta. No. 162—Disco Register Nos. 20 and 25.

The Baltic alfalfa and the Grimm alfalfa are so nearly alike in all characteristics that it is difficult to treat of one without bringing in the other.

It may be that the Baltic and Grimm alfalfas are from the same original stock. Whether this be true or not, we have not been able to determine from records. It is true, however, that any differences that can be detected between the Baltic and Grimm in any test are no greater in value than the differences often found between two stocks of Grimm alfalfa, whose origin is definitely known.

The Baltic alfalfa was first brought to the writer's knowledge in 1904 by Mr. W. F. Kelly of Renner, S. D., near the town of Baltic. Mr. Kelly and Mr. Evans of that place had grown this alfalfa up to then for about ten years. Mr. Kelly called my attention to this stock while I was connected with the South Dakota Experiment Station and furnished me enough seed for trial plats.

Since the Baltic alfalfa was first called to my attention by Mr. Kelly, it has been tested at various stations in the United States and Canada. Reports of these tests have been made from Minnesota, North and South Dakota, Colorado, Oregon and Canada.

The Grimm is a regional stock imported into Minnesota by Mr. Grimm in 1857. It has been grown in the vicinity of Mr. Grimm's home near Excelsior, Minn., ever since its first introduction. It has been tested at nearly all the northern experiment stations in comparison with other stocks, and never to my knowledge has it been excelled by any other variety in cold resistance. If the fame of the Grimm alfalfa rested upon just one test in one locality, there might be a question as to the value of its record, but when one considers that it has been tested at the Minnesota Experimental Stations, at the Fargo and Dickinson stations in North Dakota; Brookings, Highmore and Belle Fourche stations in South Dakota; Indian Head, Saskatchewan and many other points, and has never shown any winter-killing to speak of, its record is certainly remarkable.

Disco-Turkestan

S. D. Experiment Station No. 164—Disco No. 77.

S. D. Experiment Station No. 240—Disco No. 60.

A great variation is shown in the different importations of Turkestan alfalfa. Some are extremely hardy, while others are more or less tender. In our experience with a large number of importations we have found that some of those tracing back to S. P. I. No. 991, imported by the U. S. Department of Agriculture in 1898, are the most promising. The two numbers mentioned here and selections from them seem to be perfectly hardy in North and South Dakota and Minnesota; Disco 62B, a pedigreed selection from Disco No. 77 is probably the best Turkestan alfalfa on record at the present time. It is perfectly hardy, a good type of plant and a good seed producer.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.



(Continued from page 54.)

METHOD OF SEEDING—I have usually recommended sowing the seed broadcast and dragging lightly after seeding. My object in this has been to distribute the plants over the entire area instead of having them in rows. I hardly think my reason is good. More seed would naturally be wasted by broadcast seeding than by seeding with a drill and the rows sown with an ordinary grain drill would be close enough for alfalfa plants. One objection to drill seeding has been the tendency to sow too deep. In extremely light soil this deep seeding may be desirable, but under most ideal conditions for the seeding of alfalfa, deep seeding is detrimental. I would say that in most soils and under ordinary conditions, seeds should be sown from one-half to one inch deep.

There are many opinions expressed as to whether a nurse crop is desirable or not. A survey of these views would, however, show that a majority of the authorities preferred seeding alone in midsummer. It appears to the writer that results in eastern South Dakota, Minnesota and other localities of greater humidity show that the seeding of alfalfa with a light nurse crop of barley has been very successful and in many cases better than where the alfalfa is sown alone.

The advantage of the sowing with a nurse crop is that it is better adapted to the general farmer. It fits into his routine or scheme better and he will be more likely to sow this way than if he waits to give his land the preparation and care necessary for sowing alone.

Inoculation

ALFALFA—CLOVERS—SOY BEANS—COW PEAS and all other pod growing plants called legumes enrich the soil through the action of small bacteria growing upon their roots. These bacteria live only upon the roots of legumes and by an action of their bodies extract the free nitrogen of the air, and deposit this around themselves as nitrates, thus forming little sacks or nodules on the roots of the growing plants. These sacks furnish the growing plant with all the nitrates it requires, and still leave large amounts unused in the soil ready for future crops or other crops growing at the same time with the legumes. Quoting from bulletin issued by the Department of Agriculture in January, 1908, "It is worse than useless to attempt to grow any leguminous crop without being certain of the presence of bacteria which enable the plants to fix free nitrogen."

The method of transfer of soil for inoculation is both costly and dangerous—weed seed, soil and plant diseases are transferred in this way. All inoculations should be done by means of the pure cultures of nitrogen-gathering bacteria which are free from contamination and contain only active bacteria of the proper kind. These standard inoculations are known as Farmogerm, and we strongly advise the use of the cultures whenever you plant legumes of any description.

THE STANDARD INOCULATION FARMOGERM HIGH BRED NITROGEN GATHERING BACTERIA

What Farmogerm Is

Farmogerm is a pure culture, or growth of nitrogen-fixing bacteria that have been selected and bred up to transform large amounts of nitrogen from the air into soluble nitrates. These bacteria are grown in a jelly, or food, in which they remain active for long periods of time, and sent out in a bottle which admits the necessary supply of pure air, yet keeps out destructive contaminations.

Alfalfa can be grown on practically every farm in the United States where the soil is well drained and contains sufficient lime and bacteria.

Regular or Farm Size.....	5 acres	\$9.00
Farm Trial Size.....	1 acre	2.00
Garden Size	1/4 acre	.50

For alfalfa the above estimates of cost are based on inoculating 20 pounds of seed per acre. In South Dakota and other western states where a smaller amount of seed is sown per acre the expense will be proportionately less. For example, a one-acre-size bottle will inoculate 20 pounds of seed, whether it is sown on one- two or four acres. If on two acres the cost would be about one dollar per acre.

What Farmogerm Will Do

Unless the soil is very acid or wet, Farmogerm will:

1. Increase the yield and quality of legume crops, giving quicker growth and earlier maturity.
2. Increase the food value of legumes.
3. Make legumes grow in new localities where they cannot otherwise be grown successfully.
4. Supply nitrates to other crops growing with the inoculated legume crop.
5. Enrich the soil for future crops, thereby increasing the permanent value of the farm. Better crops—better soil—less fertilizer—less labor.

Inoculation of Disco Alfalfa Collections

On another page of this book we are offering trial collections of alfalfa seed. For the inoculation of these collections we have arranged for a trial size bottle of Farmogerm sufficient for either collection. These trial bottles can be furnished for 25c each. Orders for this size must be in hand before March 15th and will be mailed by or about April 1st.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.

Commercial Alfalfa Seed

Commercial alfalfa seed is usually offered under the name of a locality or the trademarked brand of the particular seedsmen from whom the seed is obtained. The more common locality names used are American, Turkestan, European, Western, Northern-grown, Montana, and Dakota. Sometimes these names mean something, but more often they do not. Some dealers who use these names use them indiscriminately and attach no significance to them whatever, while others are careful and exercise good judgment in source of seed supply.

In the buying of commercial alfalfa, one is to a degree patronizing a lottery. You are buying alfalfa seed that may have come from more tender stocks of the extreme tropical South, or you may be buying extremely hardy acclimatized stocks of the North. The number of chances that one is taking in this lottery may be lessened by certain information given regarding the seed. It is very seldom that any further information is given on commercial stocks than to state in what general region it was grown, and, as I have stated before, this may mean something and it may not. For example, the name "Turkestan" is applied to all alfalfa coming from Turkestan, and yet Turkestan has a range north and south almost as great as the United States, so this means absolutely nothing in respect to hardiness, and not much of anything in many other characteristics. If added to this information, a more specific locality could be given and in addition to this the number of years that it had been grown in that locality, then one has a line of information which makes this stock of a greater or lesser value, depending upon the weight of this information.

The difficulty in the past in the handling of commercial alfalfa and in seedsmen endeavoring to get this information for their customers has been the fact that such information incurs additional expense in securing the stock, and comparatively few farmers have taken this into consideration in the purchase of seed. The seed has been purchased merely on a comparison of the quotations given and on the apparent quality of seed as examined by sample.

Anyone who has handled any quantity of alfalfa in the North, knows that the brightest and finest looking alfalfa seed grown comes from the Middle West and usually from more southern latitudes or from irrigated fields. It is very seldom that the seed of pedigreed and acclimatized northern stocks shows up nearly as well as that of common alfalfa from more southern points.

I do not wish to say anything to discourage in any way the sowing of alfalfa in the Northwest. In fact, I wish to encourage it in every way, but the one point that must be held in mind by everyone who wishes to grow alfalfa in the North is to look to the hardiness of the seed sown. If you sow commercial alfalfa, get what information is available regarding it and weigh this information and select the seed which comes nearest to your requirements. If possible, secure seed of a variety having a known record for hardiness in the North and see that the record is the best.

The Dakota Improved Seed Company makes a specialty of Disco Registered Alfalfas, but handles commercial alfalfa seed from the Dakotas and Montana under three brands. These brands apply only to commercial seed and must not be confused with Disco Registered or Disco Pedigreed Alfalfas.

DISCO BRAND—A trade-mark brand of the highest quality obtainable. No seed is put out under this brand that is not strictly right as to both purity and germination. Wherever a trace of impurities are present they are guaranteed to be perfectly harmless or inert.

EMERALD BRAND—A standard brand, and seeds listed here are those that for some reason cannot be classed as Disco brand. Emerald brand seed is usually one of the best business propositions. Results from this brand are often fully equal to those from the Disco brand and the price is often considerably lower. No harmful or noxious weeds, such as dodder, Canada Thistle, Quack Grass or others of this nature, are allowed in the Emerald Brand.

OPAL BRAND, and lower grades of alfalfa seed usually contain quite a percentage of Green Foxtail, Russian Thistle or brown discolored seeds of alfalfa. Under some conditions one may be warranted in using this class of seed, but thorough inspection and the fullest precautions should always be taken. When better grades can be secured at reasonable prices the lower grades should be avoided.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.



Nothing Else Like It for Hog Pasture.

Handling the Alfalfa Crop

THE HAY CROP—Some difficulty is usually experienced in harvesting and curing the first crop of hay in sections where there is sufficient rainfall to grow the crop without irrigation. The first growth of alfalfa usually gets ready to be cut for hay early in the month of June, just about the time that many regions in the Middle West have abundant rainfall. The ideal stage to cut the alfalfa is in early bloom, but one has to be governed in cutting this first crop perhaps more by the conditions of the weather than by the condition of the crop. Rain on new-cut alfalfa very seriously injures it. In fact, it usually causes it to lose its leaves, which are the most valuable part of the alfalfa hay. The best practice is to cut at one time only what can be handled quickly and easily and gotten under cover. It is customary to begin mowing in the morning of a bright day, rake into windrows in the afternoon when the hay becomes wilted, turn this the next forenoon and in the afternoon stack it or put it up in small cocks, preferably the latter, and allow it to cure for several days before stacking it or putting it in the mow. An ideal way is to get the hay into cocks as soon as possible and have small cock covers to protect the number that one is likely to require at a single cutting. By this method one can almost always get the hay under cover without injury, and the saving of one crop of hay will easily pay for a large number of covers. In the cutting of the second, third or fourth crops, one does not usually encounter these adverse conditions, but they are occasionally present and the same practice is followed.



First car shipment of Disco Registered Alfalfa Seed on "Largest Single Order of Alfalfa Seed Ever Placed," as reported by "Chicago Grain Dealers' Journal" and other papers.

purpose, but never succeeded in obtaining a good yield in the vicinity of Mitchell I have secured good yields of crops, with perhaps the advantage with the first crop, that he can secure a crop of hay and then a crop of seed by using the second crop for seed this advantage is very much offset.

Alfalfa should be cut for seed when about two-thirds or three-fourths of the pods have turned brown. Various machines are used for cutting. One of the best, I think, is a mowing machine with a bunching and dropping attachment.

Alfalfa may be threshed from the field or stacked in the ordinary manner and threshed from the stack. A clover or alfalfa huller is the best machine for the purpose, but where there is none available, an ordinary threshing machine with clover hulling attachments will do very well and perhaps is equal to the special huller.

The uncertainty of securing a good yield of alfalfa seed has made alfalfa seed growing somewhat limited in extent. Where alfalfa seed production can be depended upon this is one of the most profitable crops to grow, but in most sections of the country the hay crop is much safer.

PASTURING ALFALFA—Alfalfa fields should not be pastured the first season and much care should be exercised in pasturing them the second year. In fact, many recommend that pasturing should be left till the third year. Alfalfa is one of the most valuable pasture crops that we have, and yet there are wide differences of opinion as to its general value. Some stockmen who seem to know just exactly how to handle the crop say that it makes excellent pasture for hogs, cattle, horses and sheep, and there are other stockmen on the other extreme, who say that it is adapted only as hog pasture. This is a subject that one must study carefully with his own stock and his own conditions. I would not advise anyone to suddenly change from any regular pasture to alfalfa. Begin gradually, study your stock, the conditions of the crop, and other factors influencing your stock at the time, and then determine to just what extent you can use alfalfa as a pasture crop. There is hardly an exception to the opinion that alfalfa makes excellent hog pasture. The differences of opinion seem to be on its use for other kinds of stock. In certain sections of the West it is very apparent that they depend almost entirely upon alfalfa as hay and pasture for all kinds of stock. Whether it is because the stock have become educated or adapted to it in those sections or not, I cannot say. It is true, however, that wherever alfalfa can be used as pasture for stock, it will furnish one of the cheapest and most valuable forms of protein or muscle-forming food that it is possible to obtain.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.

Registered

Disco
REGISTERED

Alfalfa



First cutting of alfalfa from a 90 acre field near Mitchell, S. D. This field yielded over $2\frac{1}{2}$ tons per acre at this cutting.

Organized Effort in Alfalfa Introduction

A great deal has been said about alfalfa in the past few years. Better Farming Associations, Development Associations, County Farm Bureaus, Agricultural Improvement Associations, Railroad Companies, Agricultural Implement Companies and many other organizations, private, corporate, state and national, have instituted propagandas having for their object the extension of alfalfa growing throughout the country. Some of these organizations are clinching the educational work that is being done by instituting a campaign of seed distribution. This is being done particularly where county agricultural agents or superintendents of agriculture are located and active in the work. Through them a personal canvass of the farmers can be made and fields of from one to several acres can be located where no alfalfa seed would be sown through the ordinary methods of publicity. Through these organizations and this line of work, thousands of acres of alfalfa are to be planted during the next few years.

In October, 1913, the **West Central Minnesota Development Association** took up this proposition with the writer as representing the Dakota Improved Seed Company. This Association represents seventeen counties in west-central Minnesota, in each county of which there is located an active agricultural agent working under a separate county organization or Farm Bureau. This Association is the leading Association of this character in this line of work. The officers called the writer in conference to formulate plans and methods of handling the distribution of alfalfa seed through the 17 counties.

A plan was formulated by which from three to five or more cars of **Disco Registered Alfalfa Seed** were to be purchased by the Association during the season and the seed furnished to the farmers at cost to the Association. According to the plan each county will use from 100 to 300 bushels of seed and the total order will probably be considerably above \$25,000.00. The writer as Secretary of the Dakota Improved Seed Co. was designated as the official representative of the Association to handle the proposition and secure all of the seed that would be used by the Association during the season.

Before going ahead on this proposition, the officers of the Association took the matter up in detail in conference with the Dean of the Minnesota College of Agriculture, the Superintendent of Farmers' Institutes for Minnesota and other advisers, who gave their stamp of approval to the entire proposition.

At about the same time that these negotiations were in progress the **North Dakota Better Farming Association** took up the same proposition with the writer, and the Dakota Improved Seed Co. was officially authorized to secure **Disco Registered Alfalfa Seed** for the North Dakota Association to be distributed through the Agricultural Extension Agents throughout the state. At this time it is anticipated that this organization will use an amount equal to that of the West Central Minnesota Development Association.

The fact that the Dakota Improved Seed Co. was designated by these two prominent associations after careful and thorough investigation to handle the alfalfa seed proposition for them, is looked upon as an official recognition of the kind of work that this company has done and is continuing to do with this important crop. At the present time negotiations are in progress with many other local and state organizations working toward a further distribution of Disco Registered Alfalfa Seed in other sections of the country.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.



Weeds in Alfalfa

The subject of weeds in alfalfa comes up first in the purchase of seed to sow. It isn't altogether the number of weed seeds present in the seed so much as it is the kind. A large proportion of the alfalfa seed grown without irrigation in the Middle West contains green foxtail or pigeon grass. In fact, it seems to be very difficult to secure alfalfa seed without a trace of green foxtail or Russian thistle present. The main objection to this kind of seed in alfalfa, if it is present in only small quantities, is the space it takes up rather than any noxious character of the seed. As far as the presence of this seed is concerned, I would not consider it very seriously only in so far as it affects the percentage of the purity of the sample. There are other weed seeds which would come in the same category, namely, yellow foxtail, lamb's quarters, old witch grass, and some others.



Dodder covering alfalfa plants. The white spots and the mass of white near the center are the flowers of the dodder. The thread-like stems running horizontally from plant to plant are the vine of the dodder.

look a great deal alike, but which vary somewhat in size. Remove most of the small seeded dodders, but will not remove altogether the large seeded dodder.

The dodders are all parasitic plants, the seeds of which germinate in the soil. As soon as they appear above the ground they begin a sort of spiral twisting to find a suitable green plant upon which to feed. If the dodder happens to be one of the alfalfa dodders, as soon as it comes in contact with an alfalfa plant in its spiral journey, it twines around the plant and sends out small, root-like projections into the alfalfa tissues and takes its food from the alfalfa plant. As soon as this is accomplished, the dodder plant rots off at the surface of the ground and depends entirely thereafter upon the alfalfa plant for its nourishment. The dodder plant then grows very rapidly and branches freely, but produces no conspicuous leaves. The leaves happen to be nothing but small scales. The stems of the dodder are very fine and thread-like, but grow and branch very freely, so that a single seed may in a favorable year give rise to a mat of dodder covering almost a square rod. The dodder can be very easily discovered in an alfalfa field by its yellow or orange colored vine.

The dodder has become so common in commercial alfalfa seed from certain districts that one must always be on the lookout for it. Even though the test of a sample shows no dodder present, there may be a few seeds somewhere in the stock, and so it is well to keep watch of the field and if any dodder appears, remove it before it has spread over any large area and before it has produced any seeds. It is a comparatively easy matter to remove a few plants from the field by cutting the infected alfalfa close to the ground with a sickle or a scythe. If a field is badly infected, about the only way to dispose of the dodder is to plow up the field.

In sections of the country where the rainfall exceeds 25 inches, Kentucky Blue Grass proves quite a serious pest to some alfalfa fields. In such localities, alfalfa fields are often short lived because of the presence of the blue grass. One should be very careful not to allow this to get started, for it spreads very rapidly. In the drier sections the alfalfa is able to hold its own with blue grass or any other of our native or cultivated grasses, even Russian Brome grass. This latter is considered to be able to drive out almost anything, but I find that it is not able to drive out alfalfa where the alfalfa has anywhere near favorable conditions.

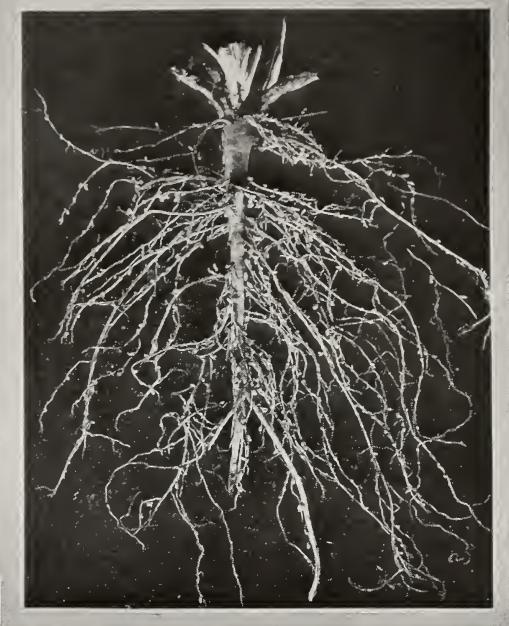
Are you interested in other seeds besides alfalfa? If so, send today for the Disco Seed Book. It is yours for the asking.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.

Clovers—A Cheap Fertilizer



Upper Photo, Clover Seeded in Rye



Nodules on Roots of Medium Red Clover Produced by Thorough Inoculation.

The clovers belong to the group of plants known as legumes, which serve to increase the nitrogen in our soils. This is done by certain bacteria which grow and develop on the roots of the leguminous plants. Every rotation of crops on the farm should include clover or some other plant of this family. In experiments conducted by the Minnesota Experiment Station it has been shown that the sowing of six pounds of clover seed with every acre of wheat increased the yield of wheat on an average of over three bushels per acre. This is getting good pay for the clover seed, even at the high prices that sometimes prevail. We advise that a certain portion of every farm be kept in clover, but if this cannot be done, wherever small grain is sown the practice mentioned above of sowing clover seed with the grain is far better than sowing the grain alone.

Sow Only Northern Grown Seed

We have tested over fifty stocks of red clover seed in South Dakota and find that seed from northern sources is the most desirable for the northern states. In fact, no southern grown stocks tried were nearly as good as the northern grown seed. This point is of vital importance to clover growers in the Northwest. One can better afford to pay double the price for seed than to buy southern seed. In most cases western grown seed has proved better than eastern grown, though this is not always the case.

Disco **MEDIUM RED CLOVER**—This is the common kind of red clover. Used alone or with timothy or in other grass mixtures. With our present increased facilities for cleaning we can offer the very highest grade of seed brought up strictly to our Disco standard. We handle only northern grown seed.

MAMMOTH RED CLOVER—Ten days or two weeks later than the medium clover and not so commonly grown. We cannot always furnish South Dakota grown seed of this clover, but will offer the best seed obtainable at prices governed by the condition of the market.

ALSIKE CLOVER—Often used in place of medium clover, especially in wet places. One of the best clovers to use with timothy. Longer-lived than medium clover.

WHITE OR DUTCH CLOVER—Used in lawns and pastures.

SWEET CLOVER—There is considerable agitation at present about sweet clover. The experiment stations of the central and northwestern states are recommending sweet clover for hay and pasture as well as a soiling crop. It produces an immense amount of forage under conditions where many other crops would fail. It will give better returns on poor soil than any other crop we know of and paves the way for other crops to follow. The annual variety should not be used, but either the white or the yellow Biennial varieties are valuable.

Prices of Alfabras, Clovers and Grass Seeds are given on page 9.



Consult Your State Agricultural Experiment Station

Whenever you wish the best information about any farm crop or anything else in connection with farm operations, the best place to get it is from your state experiment stations. Your state employs men who are experts along particular lines to conduct investigations and give advice and information on their subjects. Why not use them and get all the information you can from them?

If you are planning to raise alfalfa write to your state station or to the man in charge of the alfalfa work at the station for advice and bulletins or other information on this crop.

There may be other sources of reliable information, but the state experiment stations can be depended upon to give you the best there is.



A portion of a field test of the hardy and non-hardy types. On the right, Peruvian alfalfa from Colorado grown seed. On the left, Baltic alfalfa from Colorado grown seed. Field seeded March 17, 1909; view taken March 25, 1911. (Bul. 181, Col. Agr. Exp. Sta.)

Space here permits of mentioning only a few of the publications on alfalfa. Some of these can be read with pleasure and profit by anyone interested in this important crop:

Book of Alfalfa, by F. D. Coburn, Orange Judd Co., New York.

Alfalfa in America, by Joseph E. Wing, Sanders Pub. Co., Chicago, Ill.

Alfalfa in the Northwest, by W. A. Wheeler, Dakota Improved Seed Co., Mitchell, S. D.

Alfalfa Growing in Illinois, Farmers' Institute Bulletin No. 18, Springfield, Ill.

Some New Alfalfa Varieties for Pastures, by George W. Oliver, Bulletin No. 258, Bureau of Plant Industry, U. S. Dept. of Agriculture.

Cold Resistance of Alfalfa and Some Factors Influencing It, by Charles J. Brand and L. R. Waldron, Bulletin No. 185, Bureau of Plant Industry, U. S. Dept. of Agriculture.

Breeding Drought-Resistant Forage Plants for the Great Plains Area, by Arthur C. Dillman, Bulletin No. 196, Bureau of Plant Industry, U. S. Dept. of Agriculture.

Grimm Alfalfa and Its Utilization in the Northwest, by Charles J. Brand, Bulletin No. 209, Bureau of Plant Industry, U. S. Dept. of Agriculture.

Alfalfa, by J. M. Westgate, Farmers' Bulletin No. 339, U. S. Dept. of Agriculture.

Variegated Alfalfa, by J. M. Westgate, Bulletin No. 169, Bureau of Plant Industry, U. S. Dept. of Agriculture.

Alfalfa, The Relation of Type to Hardiness, by Philo K. Blinn, Bulletin No. 181, Colorado Experiment Station, Fort Collins, Colo.

Alfalfa as a Field Crop in South Dakota, by A. N. Hume and Samuel Garver, Bulletin No. 133, South Dakota Experiment Station, Brookings, S. D.

Alfalfa, by L. R. Waldron, Bulletin No. 95, North Dakota Experiment Station, Fargo, N. D.

Alfalfa Management in Iowa, by H. D. Hughes, Bulletin No. 137, Iowa Experiment Station, Ames, Iowa.

Alfalfa Growing in Michigan, by V. M. Shoesmith, Bulletin No. 271, Michigan Experiment Station, East Lansing, Mich.

Alfalfa in Ohio, by W. M. Cook, Circular No. 113, Ohio Experiment Station, Wooster, O.

Alfalfa Management, by C. W. Pugsley, Bulletin No. 120, Nebraska Experiment Station, Lincoln, Neb.

Co-operative Experiments in Alfalfa Culture, by H. J. Wheeler, Bulletin No. 152, Rhode Island Experiment Station, Kingston, R. I.

Alfalfa Seed Production, by Philo K. Blinn, Bulletin No. 191, Colorado Experiment Station, Fort Collins, Colo.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.

Grasses Lawn Grass

A good lawn is one of the most attractive features of the home. The first requisite of a good lawn is the right kind of seed. Aside from the importance of sowing good seed, the most essential thing is to prepare the soil very thoroughly before the seed is sown.

The most desirable seed for a lawn anywhere in the western and central states is Kentucky blue grass. White clover produces quicker results and is very desirable in a mixture with Kentucky blue grass. Aside from these two plants there are comparatively few kinds that are used for a lawn.

Before seeding the lawn the ground should be well spaded or worked up in some manner to the very finest state of tilth. If, in scraping or grading, small areas of subsoil are uncovered, these should be removed for a few inches and black soil added. If this is not done the lawn will appear patchy and these spots will always be noticed. When the seed is sown the soil should be well firmed and not allowed to remain loose. For lawn purposes a large amount of seed is sown. The quantity of seed is the smallest item, and quicker results are obtained with a heavy seeding. From 40 to 100 pounds per acre are used.

Disco GUARANTEED SEED Our Disco mixture contains the choicest varieties known. This mixture is adapted to a variety of conditions. If, however, you have unusual conditions we will make up a mixture for your special location, if you will give us a statement of such conditions.

Kentucky Blue Grass

Disco GUARANTEED SEED This will always be the standard lawn grass and is also valuable to use in pasture mixtures where there is a reasonable amount of moisture. Kentucky blue grass seed of poor or uncertain quality can be bought at a much lower price than we charge for our Disco brand. We purchase the very choicest seed obtainable, regardless of price.

Timothy

Disco GUARANTEED SEED This is still the leading grass. There is probably more acreage of timothy grown each year than any other one kind of grass in this section of the country. It is comparatively easy to procure a stand of timothy and it is usually reasonable in price. The season of 1912 was very favorable for the production of timothy. Good seed is more plentiful than it has been for three years and prices are consequently lower. Our seed is practically all South Dakota grown and we guarantee it for purity, quality and germination.

Russian Brome Grass

All farmers who have grown this grass have a great deal to say about it. Sometimes their say is one way and sometimes the other. Any one who has grown it either likes or dislikes it. We think that it has more of a place in the northern part of South Dakota and North Dakota than in the southern part, though there are advocates of Bromus almost everywhere you go.

Slender Wheat Grass

A very valuable native grass of the north central states. Often but erroneously called Western Rye Grass. This grass has not been extensively sown in the Northwest, but wherever used produces good yields of hay of good quality. It is well adapted to a dry climate and is worth giving a trial as a hay grass anywhere in the region where it is native. Good seed is not always available.

FREE! With every order for grass, clover or alfalfa seeds at catalog prices to the amount of \$25 or over we will send our Improved Cyclone Seeder free upon request. Only one will be sent as a premium to any one customer, however large the order. It will not be sent unless you ask for it.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.



Russian Brome Grass (*Bromus inermis*),
Showing Two Types of Plants

Disco Alfalfa Trials

The Dakota Improved Seed Company believes fully in the handling of alfalfa seed on its "performance record" or "making good." Nothing ever permanently succeeds that hasn't back of it a foundation of real merit. As soon as this company was formed the policy was adopted of backing up the Agricultural Experiment Stations in their work with farm crops.

With Disco Alfalfas the situation was somewhat different than with some of the other crops. Improved strains of alfalfa were being developed and introduced by the Dakota Improved Seed Company, so the plan was adopted of furnishing samples of Disco Registered Alfalfas sufficient for trial gratis to all the state experiment stations and county demonstration farms and farm bureaus. At the present time there are upwards of a hundred institutions of this kind co-operating with us in this work and the number is continually increasing.

The plan of having every experiment station, county agent and alfalfa investigator in the United States and Canada test in trial plots exactly the same series of Disco Alfalfas is the most comprehensive series of alfalfa tests ever planned or carried out. The results that have been secured to date are most gratifying.

We have been more than surprised to find our Disco Alfalfas leading the procession in states where hardiness has so far been a minor consideration. Disco Alfalfas have been developed in the Northwest for hardiness combined with high production. The early returns from tests in Illinois, Missouri, Michigan, New York and other states go to show that the same alfalfas are "making good" in other states as well.

We have had a large demand from various schools, organizations and individuals for a series or collection of Disco Registered Alfalfas for trial plots either for competitive contests or merely for trials to determine how alfalfa will grow in particular localities and what kind of alfalfa would do best. This demand is so great at the present time that it is impossible for us to furnish seed to all of them gratis. To meet this situation we have made up two Disco Alfalfa Collections solely for trial plots and are offering them at the bare cost of the seed itself without taking into consideration the cost of packing, nor the cost of the alfalfa book and instructions accompanying each collection.

Disco Junior Alfalfa Collection

10 Cents Postpaid.

One-half ounce each of

- 2 Disco Registered Pedigreed Alfalfas.
- 2 Disco Registered "Native" Alfalfas.
- 2 Commercial Alfalfas from different sources.

One ounce of seed for outside rows.

One Disco Alfalfa Book.

One set of plans and instructions for planting and handling plot.

The seed furnished in the Disco Junior Alfalfa Collection is sufficient to plant from one-tenth to one-fourth acre, if desired, depending on method of planting, or the test can be conducted on a very few feet of ground in the garden plot of a town lot.

Disco Senior Alfalfa Collection

25 Cents Postpaid.

One ounce each of

- 3 Disco Registered Pedigreed Alfalfas.
- 4 Disco Registered "Native" Alfalfas.
- 3 Commercial Alfalfas from different sources.

Two ounces of seed for outside rows.

One Disco Alfalfa Book.

One set of plans and instructions for planting and handling plot.

The seed furnished in the Disco Senior Alfalfa Collection is sufficient to plant one acre or less, depending on method of planting.

Special Alfalfa Contest Offer

To the first County Superintendent of Schools or County Agricultural Agent in each one of the states north of and including the 37th parallel of latitude who will organize a boys' alfalfa contest and make application to the Dakota Improved Seed Company, we will furnish gratis for this contest 100 or less as required of the Disco Junior Alfalfa Collections. The contest can be arranged to suit the one in charge. The only condition is that the Dakota Improved Seed Company be furnished a copy of the report of the contest.

To any other school, institution or organization wishing to conduct an alfalfa contest the Disco Junior or the Disco Senior Alfalfa Collections will be furnished in lots of 25 or more at 8 cents each for the Junior and 15 cents each for the Senior Collections.

One or other of these collections or offers should interest every farmer, farm boy or girl, owner of a farm, rural school teacher, county superintendent of schools, county agricultural agent, agricultural school teacher or principal, or anyone else engaged in farming or interested in agricultural pursuits in any way.

Prices of Alfalfas, Clovers and Grass Seeds are given on page 9.

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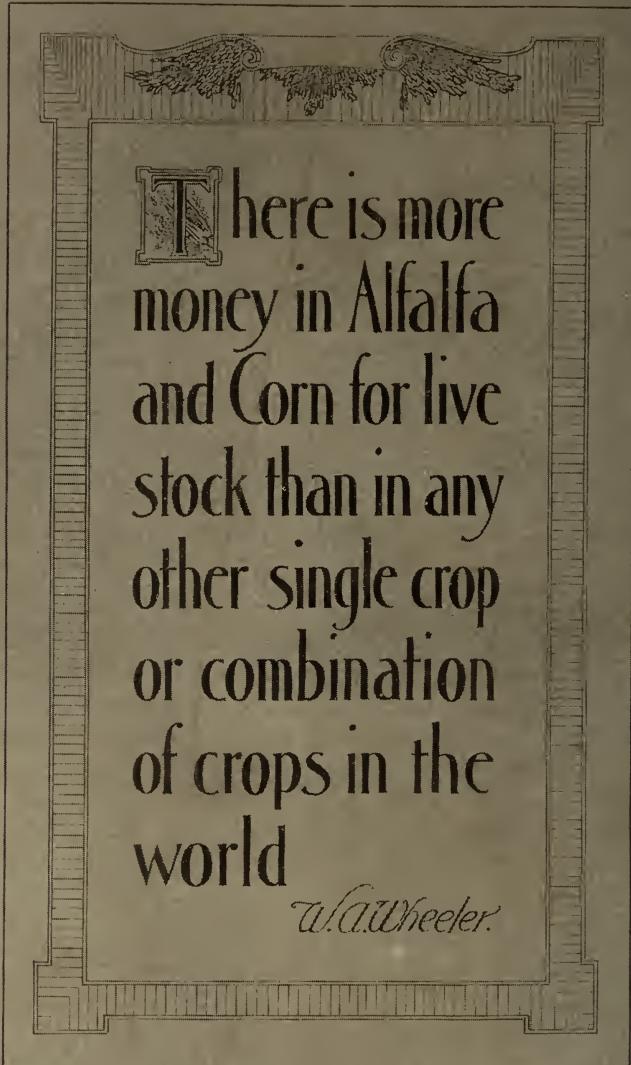
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FREIGHT RATES FROM MITCHELL, S. D., IN EFFECT JANUARY 1, 1914.

Given in Cents per 100 Pounds, Less than Car Lots.

Garden seeds, grass and clover seeds, cane seed and potatoes go as third class; grain, corn and feeds as fourth class.

		3d	4th		3d	4th		3d	4th		
Salem,	S. D.	.16	.12	Yankton,	S. D.	.22	.17	Lincoln,	Neb.	.55	.45
Sioux Falls,	"	.21	.16	Elk Point,	"	.27	.20	Omaha,	"	.46	.35
Woonsocket,	"	.15	.11	Bridgewater,	"	.15	.11	O'Neil,	"	.74	.59
Wolsey,	"	.19	.14	Canton,	"	.21	.16	Terry,	Mont.	.97	.74
Redfield,	"	.22	.18	Flandreau,	"	.27	.20	Miles City,	"	1.04	.79
Aberdeen,	"	.28	.21	Howard,	"	.20	.16	Musselshell,	"	1.34	1.11
Bowdle,	"	.36	.27	Bradley,	"	.34	.26	Lewiston,	"	1.42	1.18
Mobridge,	"	.40	.30	Andover,	"	.32	.24	Butte,	"	1.50	1.26
Orient,	"	.39	.29	Milbank,	"	.41	.30	Billings,	"	1.34	1.11
McLaughlin,	"	.54	.46	Watertown,	"	.34	.26	Le Mars,	Iowa	.30	.23
Lemmon,	"	.65	.51	Faulkton,	"	.34	.26	Eagle Grove,	"	.51	.38
Plankinton,	"	.14	.10	Gettysburg,	"	.39	.29	Sanborn,	"	.35	.27
Chamberlain,	"	.21	.16	Hettinger,	N. D.	.72	.55	Rock Valley,	"	.27	.21
Kennebec,	"	.32	.26	Linton,	"	.53	.41	Manilla,	"	.46	.34
Murdo,	"	.49	.42	Edgeley,	"	.47	.36	Charles City,	"	.43	.37
Belvidere,	"	.57	.49	Oakes,	"	.41	.31	Cedar Rapids,	"	.57	.45
Rapid City,	"	.73	.64	Fargo,	"	.68	.52	Des Moines,	"	.53	.41
De Smet,	"	.24	.18	Grand Forks,	"	.94	.72	Sioux City,	"	.30	.22
Huron,	"	.24	.18	Wahpeton,	"	.61	.47	Chicago,	Ill.	.67	.47
Miller,	"	.30	.22	Jamestown,	"	.96	.74	St. Louis,	Mo.	.71	.52
Pierre,	"	.39	.29	Minot,	"	1.12	.92	Buffalo,	N. Y.	.97	.68
Philip,	"	.75	.59	Worthington, Minn.	"	.30	.23	Dallas,	Tex.	1.51	1.31
Underwood,	"	.87	.73	Winona,	"	.43	.37	Denver,	Colo.	1.10	.87
Belle Fourche,	"	.97	.81	Minneapolis,	"	.43	.37	Casper,	Wyo.	1.60	1.33
Buffalo Gap,	"	.96	.79	Duluth,	"	.64	.47	Leavenworth,	Kan.	.64	.47
Dallas,	"	.82	.65	Marshall,	"	.43	.37	Milwaukee,	Wis.	.67	.47
Tripp,	"	.16	.12	Crookston,	"	.82	.66	La Crosse,	"	.43	.37
Armour,	"	.19	.14	Fergus Falls,	"	.74	.58	Seattle,	Wash.	2.20	1.90
Tyndall,	"	.20	.15	St. Cloud,	"	.59	.49	San Francisco, Cal.	"	2.20	1.90
Platte,	"	.28	.21	Fremont,	Neb.	.55	.44	Ogden,	Utah	1.83	1.50



There is more money in Alfalfa and Corn for live stock than in any other single crop or combination of crops in the world

W. A. Wheeler.